Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

A280.39
M34Am
Cop. 3

U.S. Dept. of Agriculture, Agricultural Marketing Service, in Cooperation with State Depts. of Agriculture

U.S. DEPT. OF AGRICULTURE
LIBRARY
SEP 7 - 1962
CURRENT SERIAL RECORDS

ABUNDANT PRODUCTION

Our greatest Heritage

EFFICIENT MARKETING

Our greatest Challenge

Proceedings of the National Marketing Service Workshop
at Atlanta, Georgia, November 14–17, 1961

AMS-480

JULY 1962

Foreword

March 1962

About 300 of the nation's leaders in agricultural marketing gathered in Atlanta from all over the country, from November 14th through 17th, 1961, for the ninth annual National Marketing Service Workshop — sponsored by State Departments of Agriculture in cooperation with the Matching Fund Program of the Agricultural Marketing Service, U. S. Department of Agriculture.

They dedicated themselves through four information-filled days to a consideration of this moment in marketing — a view backward over the years past, a look forward into the years ahead. Discussions were keyed to the Conference theme — "Abundant Production Our Greatest Heritage — Efficient Marketing Our Greatest Challenge."

As has been the tradition of these workshops, prepared addresses flared quickly into discussion, and discussion into stimulating exchange of ideas and experiences — exchanges which spilled out of the meeting rooms into night-time sessions, into informal discussion groups in lobbies and off.

Because of the widespread representation at the Workshop of the marketing men who participate in the Matching Fund Marketing Service Program and the key positions they hold in our nation's great system of agricultural marketing, we hold high hopes that this Workshop has and will make important contributions to the promotion of more efficient marketing in the critical years of change that are upon us and lie before us.

As a further service to that objective, we offer this record of the Proceedings of the National Marketing Service Workshop. For those who attended, we hope this report will refresh memories of some of the valuable talks they heard and enable them to read some of those they missed hearing because of schedule conflicts. For the many interested in marketing who were unable to attend, we hope this report will provide at least the essence of information they missed. We thank the speakers who have graciously permitted us to condense their addresses to meet publication limitations.

William C. Crow

Acting Director
Matching Fund Program

Contents

Page

General Sessions

Our abundant production — a national asset. . . . Hon. Herman E. Talmadge 1

Measuring marketing efficiency . . . . George H. Aull 5

Organization for marketing and our services. . . . . S. R. Smith 9

Tools for managed marketing . . . . Ralph B. Bunje 12

Improving transportation of agricultural products . . . . . James T. Duncan 15
D. W. Brosnan 20
Rupert L. Murphy 24

Effective reporting — our great opportunity. . . . . Harry P. Mileham 29

Elements of a good progress report . . . . Robert P. Callaway 32

Preparation and use of reports . . . . John A. Curry 33

Administration of Marketing Programs (Workgroup sessions)

What the National Association of State Departments of Agriculture
can do to advance marketing. . . . . Phillip Alampi 38

What the National Association of Marketing Officials can do to
advance marketing . . . . Don E. Wilkinson 41

Are our marketing tools adequate for the job ahead . . . . . William J. Kuhrt 1/
John L. Fulmer 44
Daniel M. Dalrymple 47

What the challenge — efficient marketing — means to State
departments of agriculture . . . . L. Y. Ballentine 50
Doyle Conner 51
Don Olson 53
Hollis Shomo 54

Promotion of agricultural products and marketing programs (Workgroup sessions)

Planning and conducting promotions. . . . . John Matheson 59
Ralph M. Henry 1/
Patterson Bain 63
Lyle W. Currie 66

Possibilities of regionalized promotion, sales program . . Carroll Dunham 67

Page

Effective ways of presenting ideas. . . . . Calvin Cox 69

Utilization research creates new agricultural products . . . . J. E. Simpson 72

Measuring results of promotional programs . . . . W. E. Black 75
William S. Hoofnagle 77

Dairy products (Workgroup sessions)

Trends in marketing costs and margins for dairy products. D.D. MacPherson 81

Reducing marketing costs and margins for fresh milk. . . . . . C. W. Pierce 84

Reducing marketing costs and margins for manufactured dairy products. . . . . Hugh L. Cook 87

The dairy supply-demand picture . . . . Henry A. Homme 90

Federal orders as a marketing tool . . . . G. M. Beal 94

State milk control agencies and supply regulation. . . . . . Donald S. Conkey 96
L. L. Clough 99

Supplements to Federal and State milk orders as supply control devices . . . . Paul E. Hand 102

Proposed standards for manufacturing milk . . . . Edward Small 105

Wisconsin's experience with State standards for manufacturing milk . . . . Evert Wallenfeldt 108

Quality improvement in transition from farm-separated cream to whole milk. . . . . Roger Holkesvik 112

The tools of public relations — their use and abuse . . . . . . Robert E. Best 115

Why we think public relations are important to the dairyman, and what are we doing in this field. . . . . Jack W. Barnes 118

Fruits and vegetables (Workgroup sessions)

Federal marketing agreements and orders . . . . Minard F. Miller 121

State marketing orders . . . . Frank Bennett 1/

New product development. . . . . R. H. Treadway 124

What the processor looks for in locating plants . . . . . . Wayne C. Handwerk 127

Page

Bulk handling of raw produce for processing . . . . W. J. Scheffer 130

Sampling problems in the bulk handling of fruits and vegetables . . . . W. W. Anderson 135

Producer-processor relationships . . . . George P. Donaldson 137

Research developments in the quality field . . . . A. Lloyd Ryall 140

Importance of quality maintenance to the retailer . . . . Frank G. Wack 142

Role of assembly markets . . . . J. E. Youngblood 1/
John Nardelli 1/
Loyd C. Martin 146
Hudson Norman 1/

Grain (Workgroup sessions)

Effects of transportation changes on the movement of grain . . J. C. Winter 149

Grain marketing changes as viewed by the miller . . . . . Carl C. Farrington 152

Grain marketing changes as viewed by the country and terminal elevator operator . . . . Benjamin S. Jaffray 153

How a commodity organization may improve foreign marketing of grain . . . . William H. Crotinger 157

Requirements and problems in marketing grain in foreign countries . . . . Edward F. Seeborg 1/

State grain marketing service programs . . . . William E. Lane 161
David M. Bartholomew 164
Reid Grigsby 1/
William S. Farris 167

Recent developments in conditioning, storing, and handling grain to maintain quality . . . . Leo E. Holman and Lloyd L. Smith 169

Quality determination tests for grain . . . . Morris H. Neustadt 172

Livestock (Workgroup sessions)

Selling livestock on the basis of carcass grades . . . . Kenneth Monfort 175
S. Kent Christensen 175
Lee Kolmer 178

Improved grades with carcass cutability . . . . David M. Pettus 182

Demonstrations as a method of increasing meat consumption . Lowell Mohler 185

Page

TV demonstrations . . . . Robert E. Rust 187

Demonstrations . . . . Monte Flett 1/

Facts for decision — situation on livestock . . . . Samuel J. Gilbert 189

New frontiers in data collection and dissemination . . . . J. C. Purcell 191

Changing market structure means changing market news. . . Walter J. Wills 193

Research on centralized processing of meats for retail sale. R. W. Hoecker 197

Progress report on a Kansas installation . . . . Lowell Mohler 201

Poultry and eggs (Workgroup sessions)

Organizing to increase effectiveness in selling eggs . . . . Berwyn B. Gehgan 204

What can organized selling do to improve poultry marketing . . . . Bruce F. Failing 206

New egg products may be the answer . . . . Robert C. Baker 209

Expanding egg outlets through new product development . . . . Curtis Collier 211

Direct marketing of eggs by producers: some economic considerations . . . . Harold B. Jones 213

Equipment needs of the producer-packer . . . . Thomas F. Todd 217

Pros and Cons of marketing orders for poultry and eggs. . . . . Eugene S. McConnell 1/
G. E. Coleman 220
Richard A. King 222

Industrial engineering in facility development . . . . Rex E. Childs 225

Procedures used in problem analysis and development of recommendations . . . . Kenneth H. Brasfield 228
Charles B. Elks 229

Special Topics (Workgroup sessions)

Organizing a program to inform landowners and farmers of the prices of forest products. . . . . James R. Kendall 234

The West Virginia forest information report . . . . Alan R. Miller 236

The role that soil conservation districts can play in forest products marketing . . . . Ross H. Mellinger 238

Page

Forest Service research in the field of timber prices and marketing . . . . .T. A. McClay 243

State departments of agriculture and farmer cooperatives. . Byron G. Allen 247

What State departments of agriculture can do to help cooperatives market agricultural products . . . . .Erwyn Witte 251

Scope of activities of the Farmer Cooperative Service . J. Kenneth Samuels 255

Opportunities to develop marketing service programs with cooperatives as viewed by the cooperative manager . . . .Ralph B. Bunje 257

Railroad piggyback in agriculture . . . . J. W. Plant 258

Work on transportation by the Southern Governors Conference . . . . .Walter R. McDonald 1/

Petroleum industry in agriculture. . . . . James W. Cassady 261

Future of motor transport . . . . Forney A. Rankin 263

List of persons attending Workshop. 268

1/ Copies of these talks were not available at the time of publication.

ABUNDANT PRODUCTION

Our greatest Heritage

EFFICIENT MARKETING

Our greatest Challenge

GENERAL SESSIONS

OUR ABUNDANT PRODUCTION — A NATIONAL ASSET

Hon. Herman E. Talmadge
U.S. Senate

Chairman Campbell, distinguished guests of Georgia, I am honored, indeed, by your invitation to participate in this program and I am deeply grateful to Phil Campbell for the generosity of his introduction. He and I have been friends for a long time. During my administration as Governor of Georgia, he was chairman of the Agriculture Committee in the House of Representatives. He did such an outstanding job that the people of Georgia elected him Commissioner of Agriculture. We think he is proving himself to be the best commissioner in the entire nation, and Georgia agriculture has gone forward in a great many ways under his leadership.

As Phil told you, Georgia's farm situation has changed in the last quarter century from one with emphasis upon row crops to one of high diversity, with emphasis upon livestock. He told you also how we are making economic progress relatively greater than all other sections of our Nation. The economic indices show that Georgia and the Southeastern States, while still having a long way to go to catch up in per capita income, are increasing faster percentagewise in home and automobile ownership, insurance policies, television sets, and virtually every other area of comparison.

We hear much criticism about our farm surpluses. Some slick magazines and politicians criticize farm surpluses as though they were the greatest curse that could possibly befall a Nation. I certainly do not regard them as such. To the contrary, I consider them one of our greatest economic assets, particularly in view of the critical age in which we live. Never before in the history of mankind has it been within the power of one man to initiate a catastrophic series of circumstances which could result in the virtual destruction of civilization. Should such unspeakable calamity ever befall the world, the food surpluses we have in the United States will prove to be mankind's greatest blessing. They will make it possible not only for ourselves but also for the remainder of the world to survive. I hope that those responsible are viewing it in that light and that our supplies of surplus food commodities are being so located that they will be protected under all circumstances. It is my opinion that we should store a substantial part of our food surplus underground, in caves, and in remote warehouses where it will be available in the event of a nuclear war.

If such war does come, food will be one of the great problems confronting us. Starvation will be rampant in those areas where food is not readily available. Our surpluses could mean the difference between perishing and surviving.

We read that in many parts of the world a large portion of the people go hungry throughout their lives. We know that the production of food is the principal economic problem in most nations of the earth, particularly those under communism where there is no incentive for the individual to produce. It is for that very reason that millions are now suffering starvation in China. So we can hardly regard it as anything but a great blessing for the United States to have a surplus of food instead of the want, hunger, and starvation which prevail elsewhere in the world.

You gentlemen are primarily interested in the marketing of farm products, and I think that is one of the greatest problems of agriculture today. Georgia has pioneered in that field, and I hope that you will have an opportunity to visit the new State Farmers' Market near here which Phil Campbell built shortly after he became Commissioner of Agriculture. We think it is the finest market of its kind in the United States. It is doing an outstanding job for the farmers not only of our State but also of the entire Southeast. Trucks from throughout the United States come here to pick up farm commodities and transport them over the Nation.

Except for the time I was in college, I have lived on a farm virtually all of my life. I live there now because I enjoy the atmosphere and because I enjoy farming. I have engaged in many endeavors during my life. I served in the Navy. I practiced law. I was Governor, and now I am in the Senate. I have engaged in several business endeavors. But, during all that time, I was also engaged in farming. I have enjoyed farming more than anything I ever did and I have made the least money out of it.

That is true of most people who are engaged in agriculture, but I think there is something about farming which offsets its lack of financial reward. In farming man deals with Nature, and — diseases, pestilences, floods, and droughts to the contrary notwithstanding — in dealing with Nature he is, in the final analysis, dealing with God. That, I am convinced, makes a more sturdy people out of those who till the soil.

You can study the rise and fall of civilizations from the earliest recorded history to the present and you will find that the backbone of every great nation has been the sturdy men and women who make their living from agriculture. It sometimes distresses me when I see how our agriculture, in becoming so efficient, is driving so many of our farmers off the land and into urban areas to compete for employment with an already over-abundant supply of labor. In fact, when we talk about our efficiency in building nuclear weapons, giant skyscrapers, and all the other things of which we are so proud in this country, we must recognize that those who have demonstrated the most efficiency are our farmers. Although only 10 percent of the people of the United States are engaged in agriculture, they produce not only excesses for the United States but also they export much throughout the world. That is the most outstanding record of efficiency of any nation at any time.

We hear much about subsidies. Sometimes these same slick magazines which criticize our surpluses would have us believe that the farmers of this country are riding on the backs of the taxpayers — rolling in wealth with a key to the Treasury. Nothing could be further from the truth. The average nonfarmer in this country earns about three times what the average farmer earns. That is wholly out of keeping with the importance of agriculture in our economic system. Farmers produce all the food that other people eat, all the fiber that is used to make their clothing, and all the timber utilized for their shelter and implements. Yet, they are the least rewarded members of society in America today. My friends, it has always been so but I devoutly hope the future will see that economic injustice remedied.

To illustrate the importance of agriculture in our country, think about what would happen if our farmers were all to go on strike today. It would be only a few days before food supplies would begin to dwindle and disappear in the cities. And, it would not be but a few weeks before city people started beating paths to the doors of their friends and relatives on the farm.

If everyone except the farmers were to go on strike, most of us could somehow continue to exist. True, we would experience extreme hardship, but we could survive. That would not be true if our farmers quit producing. Yet they, at the present time, receive about 39 cents out of each food dollar, the lowest since the great depression of the 1930's.

I know that you gentlemen are vitally concerned about the need for raising the farmer's share of the food dollar. That is the greatest challenge facing all of us who have the farmer's welfare at heart. There is a tremendous demand for agricultural products if only we can find the market for which the product is best suited. Unfortunately, agricultural research has placed primary emphasis upon production. As a result, we have seen our yields skyrocket each year. And now we find that we have not done nearly enough research on finding markets for those commodities.

Some of us on the Senate Agriculture and Forestry Committee are interested in that aspect of the problem. We have succeeded in getting several bills approved by the Committee and passed by the Senate. But thus far no realistic program of research to devise methods of utilizing our surplus farm products has been put into action.

In the matter of marketing I think we can learn much from certain sections of our country. California and Florida, for example, have done outstanding jobs in grading their products. They put labels on them and advertise them nationally. The people know what they are getting and they buy with confidence. We in the Southeast have been negligent in that field. Our farmers are learning the hard lesson that consumers demand products with eye-appeal and quality, evidenced by rigid grading and proper labeling of our farm commodities.

Many of you come from States which, like Georgia, produce broilers. For a number of years our State has produced more broilers than any other State in the Union.

At the present time the industry is having to sell birds from 3 to 5 cents per pound below the cost of production, and many small independents have gone broke as a result.

Many large feed companies, however, are urging farmers to expand their production of broilers despite this situation. Some who are not producing broilers at the present time are being induced to enter the field of broiler production.

I have given considerable thought to this question of vertical integration. I know that in some phases of agriculture, as well as in some aspects of the poultry industry, vertical integration has been a boon and is desirable. But there seems to be a point at which it no longer continues to be a blessing.

Now we have a situation where a few giant feed mills are fighting each other not only for the feed market but also for the actual production of the birds. I feel strongly that it is time for Congress to look into this question very carefully and endeavor to devise some proper solution. In any event, there must be a determination as to how far vertical integration is an asset and at what point it becomes a liability. I personally do not like the idea of forcing our farmers into the role of hired hands.

Before I went to the Congress, I used to hear about the farm bloc. I heard that all that was necessary to pass legislation was to get its backing. But after becoming a member of the Senate Committee on Agriculture and Forestry, I learned that the farm bloc had all but disintegrated. I found that has been due to two things — first, our farm population has dropped to only 10 percent of our national population; second, what farmers are left in recent years have been fragmented into many rival groups, each having a different idea as to what is best for agriculture in our country.

Sitting on the Agriculture Committee when farm legislation was pending, I have time after time seen one group come in and say it is the best bill that could be devised by man, and another group follow it and say it is the worst thing that could possibly happen. Listening to ten farmers discuss the subject, we always get at least eight different ideas.

That is the reason your Congress has been unable to pass any agricultural legislation that would be of benefit to the people of our country. I fear it will remain that way until the farmers themselves can get behind a particular program that they all think is desirable for them. And when they come to Congress with such unity you may rest assured they will find the reservoir of good will for the agricultural economy of our country — though dormant — can be tapped for effective action to benefit the farmers of America.

I thank you for permitting me to come before you today. Some of you have contacted me from time to time about agricultural problems of particular interest to your States. I appreciate that, and I hope you will continue to do so in the future. I wish you a successful meeting and God's richest blessings.

MEASURING MARKETING EFFICIENCY

G. H. Aull
Clemson College

I am glad to be at this meeting, because the programs and activities administered by the people who are present at this Workshop have contributed in large measure to a solution of many complex marketing problems in my State. I wish I had time to tell you what a good job has been done by combining forces and working together toward a common goal. I am confident, however, that many of you could, with equal enthusiasm, cite equally noteworthy accomplishments in your own State.

Efficiency is only one of the things we have come to expect of our marketing system and for some it occupies somewhat less than first place. In this day and generation any market which makes efficiency its chief aim and purpose will be relegated to a minor status in no time flat.

There are many consumers in the market today who are not looking for efficiency and would be insulted if it were offered to them. If we accept the old adage that "the consumer is always right," then we may have erred in suggesting that "efficient marketing is our greatest challenge." On the other hand, unrealistic, illogical, and inefficient demands of consumers impose undue burdens on the marketing system; we face the necessity either to try to modify these demands or to disassociate their costs from those which would normally enter into the marketing process. I can visualize a society so "affluent" that no amount of marketing efficiency could compensate for the inefficiency resulting from the whimsey of its consumers.

Another "efficiency factor" gives me great concern; one for which I have not yet been able to come up with an answer. Unfortunately, the general public in thinking about the marketing system, in evaluating its efficiency, has extreme difficulty in distinguishing the specific from the general, the ingredients from the mixture. Partly, we as marketing officials must share the blame for this situation. We refer to "the farmer's share of the consumer's dollar" as if all farmers produced all things in uniform proportions and as if all consumers were alike — rather than arrayed up and down the scale with a variety of occupations, incomes, ideas, and tastes. We have publicized this concept so effectively that people in high places convert the farm value of a particular commodity into a mythical social income figure by the application of a single simple formula.

There is a real danger that manufacturers and processors, in their attempts to capture the "mass market" which this concept implies may give too much weight to the idea of a composite demand for a composite consumer and put on the market a composite product which, at best, can meet the actual requirements of only a small proportion of the total number of individuals concerned. To the extent that this is the case, even the most laudable efforts to build efficiency into the marketing system may play havoc with the economy and the efficiency of individuals and families whose circumstances vary from the "normal." Equally laudable attempts to provide all things for all people regardless of their cultural, economic, or social status, may impose a burden on the system which many consumers can ill-afford to bear. We must devise a marketing system which will effectively compromise the interests of (1) those who can afford any luxury the market offers, and (2) those who can afford no luxuries at all, and few of the necessities. Efficiency in the market cannot actually be evaluated except in conjunction with efficiency at the consumer end. Unfortunately interests in the two seldom coincide. The market, however, must take note of both.

I am not opposed to efficiency — whether in the home, in the "shop," or in the market. The goal of efficiency will continue to challenge market researchers and administrators, and those operators who refuse to conform will eventually fall by the wayside. We must always keep in mind that many consumers prefer inefficiency and are willing to pay for it, and that many others do not want and cannot afford either the extraordinary "quality" or the super-colossal "services" which have become associated with the current concept of efficiency. I believe we have an obligation to each of these groups.

I really don't know the meaning of "marketing efficiency" and feel inadequate for the task of trying to measure it. Oris Wells defines agricultural marketing as "all of the processes involved in moving agricultural commodities from the farm to the final end-user, whether at home or abroad." He says "successful" marketing is that which is successful "from the standpoint of yielding reasonable returns or satisfaction not only to those who process or consume agricultural commodities but also to the farmers who actually grow the products."

"Reasonable returns or satisfactions" cannot long be possible to anyone without a high degree of efficiency both in production and in the marketing system. We can say, therefore, that a "successful" marketing system must be "efficient." It does not follow, however, that an efficient marketing system will be successful. The function of the market administrator becomes that of trying to establish a successful marketing system, and then to make it efficient so that it can endure.

Marketing systems are made more efficient primarily when the firms involved succeed (1) in performing present services and delivering present products at lower actual cost, or (2) in providing more and/or better products and services at the same cost or at an increased cost which is proportionately less than the increase in their worth to consumers.

These processes are going on all the time; if they were not the proportion of those who are "ill-fed, ill-clothed, and ill-housed" would be tremendously larger than at present. The achievements of the marketing system in this country over the past 15 or 20 years fall little short of the miraculous. We not only have been able to meet the demands of consumers for more and better products more conveniently packaged, but we have delivered these products in better condition over greater distances and during more days out of the year. This has been accomplished with only a small actual increase in per capita costs, and an actual decrease in terms of real wages — a tribute not only to the efficiency of our marketing system but to our overall economy. The secret can be found in two areas:

1. Our system of cooperative Federal-State and public-private research and service activities such as are represented at this workshop, and

2. Our system of laws and regulations under which the industry has largely "policed" itself with the Government serving as "umpire" with power to put out of the game any who will not play according to the rules.

Most people think of efficiency only in terms of lower costs. If we can believe the words of the advertisers and the actions of the buyers, most people have an insatiable desire for an increased number and variety of marketing "services." If the facts are as claimed, the market is under obligation to put a definite price tag on these superficial services and quit trying to fool the consumer by offering a smaller net volume of product for the same money or by softening the blow through the introduction of "trick" merchandising practices designed to conceal what the market would do well to reveal. I particularly object to a current gimmick whereby the factory labels a product to sell for "x cents off" the regular price, when nobody knows what the "regular price" may be — if there is any such thing as a "regular price."

The ability of marketing firms to increase overall marketing efficiency is inversely related to the use of such "gimmicks." If one-fourth of the efforts devoted to such practices could be directed to the "education" of consumers we could experience some real increase in marketing efficiency.

Another opportunity for marketing firms to increase their efficiency lies in the area of "producer education." Marketing efficiency is closely related to the quantity, quality, dependability, and uniformity of the raw materials entering the market as well as to the nature, size, seasonality, and steadfastness of the demand of consumers. A prime cause of market inefficiency springs from failure to recognize what the market really wants.

The farmer's share of the consumer's dollar is inversely related to the amount and kind of time, form, place, and possession "utility" which must be added to a product before it reaches the ultimate consumer. It is ridiculous to judge the efficiency of a marketing system by the share of the consumer's dollar required to pay the "marketing charges." It is equally ridiculous for farmers to complain about their share unless they are in position to perform more of the functions of the market at lower cost than the present system affords.

A substantial part of the decrease in the farmer's share of the consumer's dollar in the last 12 to 15 years may be accounted for by the fact that a lot of the marketing functions formerly performed by farmers are now being carried on (and perhaps more efficiently) by ex-farmers and by sons of farmers. It makes little difference to them whether they get their share as "farmers" or as "nonfarmer members" of an expanding group of marketing specialists.

There are other reasons why it is inappropriate to use "the farmer's share" as an index of agricultural well being. Many who once were farmers are now getting their share of the consumer's dollar under a different classification; and, because of improvements in both production and marketing, more actual consumer dollars are being shared by fewer farmers. Where 3x farmers formerly produced and sold 30x units of a commodity, 2x farmers now produce and sell 60x units. At $1 per unit, a farmer in the first instance would take in 10x dollars; in the second, 30x dollars.

Farmers are interested in what consumers pay for the things they produce, but they are hardly in position to determine the fairness or unfairness of consumer prices. The profitableness of a farm enterprise is a function of the volume produced and sold, the price received and the cost of production. It is only vaguely, indirectly related to the cost of marketing or the ultimate cost to consumers. Farmers have a real interest in anything which increases the "size" and "firmness" of the market, and which will likely add to the cost of marketing and thereby reduce their pro rata share of the dollars paid out by consumers. Fifty cents out of each of x dollars spent by consumers will likely contribute far less to the welfare of farmers than 40 cents out of each of 2x dollars.

Another equally faulty measure of marketing efficiency is the "spread" between what producers get for their products and what consumers pay for the things they buy. Actually this "spread," or "marketing margin," is a useful tool. But as a measure of marketing efficiency it can be very misleading in that it includes many costs which can not be charged to marketing and it applies to substantial volumes of products which consumers never see. Without this spread, (as Paul Willis explained to Sylvia Porter) "steak would be another steer on a western range, macaroni would be durum wheat on the Dakota plains, cheese would be milk in a Wisconsin farmer's pail." The processes involved in converting steers into steaks, wheat into macaroni, and milk into cheese — and in placing these delectables in the freezers and on the tables of homes throughout the country — are somewhat more complicated than they were even a few years ago. Add to this the fact that today these processes are virtually continuous, that they are constantly under the watchful eye of public and private officials entrusted with responsibility for the health and safety of a nation, that they involve manufacturing and financing as well as advertising and merchandising. It becomes clear not only that a lot goes on which is not strictly marketing but that the costs involved are no indication of the efficiency or lack of efficiency in the marketing system.

I think we will all agree that the quality of our food products has improved and that the time required for their preparation in the home has been materially lessened.

Nothing I have said thus far has shed much light on the question implied in the title of my talk. How does one measure the unmeasurable, or define the indefinable? One really doesn't. All we can do is to continue to strive daily to give consumers more for their money than the day before and to do it in spite of rising wage rates and higher taxes, and in spite of the peculiar and unpredictable nature of their demands. We may not be able to measure the net effect of our efforts but if we can repeat the performance of the last few years (when we handled an increase of 33 percent in the volume of factory-processed foods with no increase in the number of man-hours worked) we can chalk up another great gain in marketing efficiency. If producers can gear their output to the changing requirements of a changing market, we may not be able to measure the efficiency generated but we can pat our collective selves on the back because it unquestionably will be an accomplished fact.

Recently I read the claim of the manufacturer of a well-known detergent — that his product "cleans clothes thoroughly without washing the life out of them." This suggests a good slogan for an efficient marketing system: "It gives consumers what they want without putting them through the wringer."

ORGANIZATION FOR MARKETING AND OUR SERVICES

S. R. Smith, Administrator
Agricultural Marketing Service
U.S. Department of Agriculture

Over the past few months I have met with a number of groups, both national and State, and at every meeting I have been struck by the increasing concern of agricultural leaders with the problem so well expressed by the theme of this workshop, "Abundant Production our Greatest Heritage — Efficient Marketing Our Greatest Challenge."

Yes, all of us in the marketing field — in both Federal and State Government services — are concerned with the marketing problems facing the farmer today. I do not believe we can overemphasize the importance of the problems — most of all, the necessity for doing something about them.

But behind the marketing problems the farmer faces today are factors of change, complexity, and competition that are often neither fully understood nor even accepted. We know about these factors in a general way. But we have much yet to learn, not only about their significance in today's market, but also about where they might be leading us.

We know, certainly, about the scientific and technological revolution in agricultural production that has brought forth the greatest abundance of food and fiber ever seen. We know about the equally revolutionary changes that have taken place in marketing, the trend toward fewer and larger retail stores, the rise of the supermarket chains, the decentralization of both processing and marketing, the swing away from the central markets and the consequent divergence of the price-making function. And we know about the great advances in transportation and processing that have swept the Nation. All this we know is taking place, but what of its effect on the farmer?

We know, too, about the complexities of modern food production and marketing; the various forms of integration and contractual arrangements that have developed; the increasing demand for more marketing services and different kinds and forms of food products; the built-in maid services; the desire for a better life that has swelled the demand for convenience, quality, newness, and variety; the modern supermarket which stocks 7,000 and more separate items. But how should the farmer translate these complexities into his marketing plans?

And then, of course, we are all aware of the fierce competition that exists in food retailing today — a competition that has led to a relentless search for increased operating economy and efficiency. This, in turn, has led to the growth of bigger and bigger retail chains — both corporate and voluntary — and the concentration of buying into fewer and fewer hands. So we have the phenomena of intensified competition among food retailers, and lessened competition between buyers of the farmer's produce.

These large buyers require, and are able to demand, large lots of a specified uniform quality and some assurance of dependable delivery. And because of the national character of the mass merchandising system, these buyers are also able to insist that prices they pay be competitive with those for other products and in other areas.

How is the farmer to deal with competition from other areas and from other products, on the one hand, and with the relative lack of competition between the large-scale buyers for his products, on the other?

Those, I dare say, are some of the problems you gentlemen have been grappling with day-to-day in your work. I can tell you that they are of vital concern to us in the Agricultural Marketing Service. So much so, in fact, that we recently set up a task force, consisting of the Department's top economists and marketing people, to probe into the essential nature of the marketing problems confronting the farmer today. This group will also assess the possible long-range effects of current marketing trends and suggest the most promising guidelines for action.

One approach that I am sure you are going to hear a good deal more about, both in this workshop and in the months ahead, is organization by farmers to gain bargaining strength by improving their selling power. Now there is nothing new about farmer organization, or the need for it. But surely unless we are to forego the idea of the independent family farm and turn to some kind of food-factory type of operation, there is a greater necessity to organize now than there has ever been before.

It seems highly unlikely that we will ever return to the type of market we knew in the past. The type where we had large numbers of individual, unorganized buyers and sellers, with none wielding enough power to influence price level. The very nature and complexity of our modern society dictates some form of mass merchandising with its economy and efficiency of operation. So it seems obvious that if the farmer is going to have a voice in the pricing and specifications for his product, he is going to need to strengthen his marketing capacity. And it seems obvious to me that the first necessary step to achieve this is to consolidate the number of sellers and increase their total strength through organization. Whether such organization should be through private firms, cooperatives, or industrywide programs under Federal-State authority, I believe, is less important than the effectiveness of the organization in the particular circumstance.

Only through some such form of organization — other than through an extremely large individual operation — will farmers be able to meet the needs of the mass merchandising system for volume, standardized quality, continuous supply, and competitive cost, and be able to bargain with large-scale buyers on more equal footing.

I would like to turn now to the subject of our service. By that I mean the services of both the Agricultural Marketing Service and the State Departments of Agriculture. For I am sure you will agree that these services provide the key to marketing strength for farmers and their organizations. In some respects, our services provide the principal safeguard for the interests of the farmer in the whole vast market mechanism. But even though these services have been functioning so well for so long — perhaps just because of that — we need to look them over with a critical eye. If they are to retain their significant role in the marketing system — if we are to provide farmers with the kind of services they need — indeed must have for economic survival — we must make sure that we are adapting these programs as rapidly as possible to the changed and changing market structure.

In the field of standardization and grading, where we can perhaps provide one of our greatest services to farmers, we also have probably the greatest need to modernize.

Again, let me say that we have been working in this direction. Just within the past year or so we have: issued new grades for cantaloups and lettuce, for eggs, and for poultry parts; instituted a new grade-label program for Cheddar cheese; and made progress toward new yield grades for slaughter cattle and beef carcasses — all of these reflecting the direction in which we must go. That direction, of course, is toward meeting the needs of the mass merchandising system, toward providing a closer measure of merchantability and value. If we do not move in this direction, and rapidly, it seems to me that our system of nationally uniform grades and standards could become pretty nearly useless. Buyers already have found it necessary in some instances to develop and use their own private specifications. When this happens farmers have no voice in saying what these specifications should be, and they are not in a very good bargaining position in competing with other areas, either.

We have an equal need to improve and modernize our grading and inspection services. Certainly our grades and standards, no matter how good, lose much of their value without that impartial third-party application provided by the Federal-State services. Yet we may stand in danger of pricing ourselves right out of the grading market unless we make sure that the services we offer have a value commensurate with the cost. For that reason we cannot afford to offer grading and inspection services based on obsolescent grade standards — we cannot afford to offer grading services performed on a hand-labor basis in an industry geared to production-line speed.

Some fairly recent innovations — the colorimeter for grading tomatoes for canning, the objective grading of sample eggs in the Fresh Fancy controlled-quality egg grading program — these are good examples of modern, streamlined, objective grading systems that are highly adapted to today's mechanized food merchandising.

Such improvement as these are based on scientific marketing research — and this, too, is a field in which we could do more. Marketing research can and should provide more scientific bases for our grade standards and develop the objective, mass-production type of grading that we need to keep pace in this fast-moving age.

Marketing research also has played an important role in the development of prepackaging, and this in turn has made it possible to apply consumer standards to a number of fruits and vegetables — a thing hardly possible before this development.

We have before us a wide-open field in this matter of consumer standards. For only a few products — beef, eggs, poultry, and butter — is there any wide use of consumer grades, or any public recognition of them. Even for these products, I think we regularly find that the public is not well informed. Yet what better marketing tool could we provide to build consumer confidence and demand for any food product? Can we afford to neglect such a valuable marketing aid, and the need to inform consumers about the use of these grades as a quality guide? This is a question both we in the Agricultural Marketing Service and you in State Departments of Agriculture and Marketing should ask ourselves. We both have a vital concern in this field.

In the market news area, our services — Federal and State — have often come to be somewhat taken for granted, so that every year we have the same go-round on finances. And this is in the face of the trend toward direct sales, away from the central and wholesale markets where prices, demand, and movement are much more easily ascertained. In the marketing system that has developed, the farmer has much more need than ever before for up-to-the-minute, accurate, unbiased market news. We must make the general public and even the farmer himself aware of this; and we must move as rapidly as possible toward better coverage of the whole marketing picture — diverse as it may be. Your work in the States to this end has been invaluable, and I commend you for it.

We must, I think you will agree, maintain this same cooperative spirit in all the marketing service work in which we share a common interest. In both our Federal and State Governments we have services to perform that we believe vital to the welfare of our farmers and of the consuming public. I think we have amply demonstrated, over the years, that we can attain our objectives much more effectively by cooperating than by working separately. This seems obvious, yet in our day-to-day operations and struggles with our own problems, we sometimes lose sight of the larger goal and the necessity of working together for the common good.

I believe that meetings such as this serve the very important function of reminding us of all these things, helping us to get our problems into perspective, and giving us the chance to work together on solving our individual and common problems.

This is a vital necessity, for just as farmers need to organize to help themselves in solving their marketing problems, we in the Federal and State agencies need to organize services to help them. And we need to work together to adapt our services to the rapidly changing market structure — to keep them attuned to the times. Only in this way can we do our full share in the effort to promote the efficient marketing of our agricultural abundance. I know we can count on your wholehearted cooperation. I pledge you mine.

TOOLS FOR MANAGED MARKETING

Ralph B. Bunje
California Canning Peach Association

As a manager of the Nation's oldest and largest cooperative bargaining association, I should restrict my observations and comments to those tools with which I am most familiar. My comments are based upon the limited experience of bargaining and marketing in the field of fruits and vegetables, and the tools with which I am familiar may not be suitable in other areas.

I think it is important we stick with the legal definition of a "tool" — an instrument, or device, necessary to a profession or occupation. This is a description of the tools with which I am familiar. Tools in marketing need to be understood and placed in their proper form of reference.

A tool, in the physical sense can come in many different forms. A hammer, for example, used by a dentist is a vastly different looking and handling instrument than the hammer used by a blacksmith; or the saw that is used by a brain surgeon compared to the chain saw used by the woodcutter. The tool must fit the job.

My experience in the use of professional tools is with marketing orders and agreements and with cooperative marketing and bargaining associations. Here are two types of tools with which we have had much success. These tools have worked for many of our people in California. But all marketing orders — just like all hammers — are not the same size nor type, nor can they be suitably exchanged for use from one commodity to another.

Cooperative marketing or bargaining associations, likewise, need to be constructed and created to fit the particular requirement at hand. Marketing orders, by themselves, are only devices and tools. They do not automatically bring solutions. The effectiveness of marketing orders, as with other tools, depends upon the skill and judgment of the operators and nature of the problem involved.

In California, we have some 36 different State marketing orders and programs, and 17 or 18 Federal marketing programs. These various programs affect about half of the State's fruit, truck, and vegetable products. The value of the crops affected by these orders, last season, amounted to nearly $500 million. The skill with which the various orders have been administered as well as the character of the orders has had much to do with their success or failure.

In my own industry of cling peaches, we use nearly all of the authorities provided by law. In others, only one authority may be used. It is important to understand that the success of a marketing order depends first upon having an appropriate tool — a tool capable of carrying out the function for which it is designed to meet the need of the day. But a second consideration deals with how the tool is used. If there is one single reason for the success of marketing orders above all others, it is the skill with which it is used. That skill depends, in my judgment, primarily upon the maximum emphasis being placed upon industry responsibility; the skill of seeing to it that the people affected assume the responsibility. This is not an easy task. This takes understanding and salesmanship; it takes a concept which, if marketing orders and agreements are to be successful, must become an essential part of their operation.

Much credit in handling marketing orders must go to the pioneers, such as Bill Kuhrt from California. Under his guidance directors have refused to assume the responsibility for policy-making decisions and have insisted that the advisory board or administrative committee take these responsibilities. How much better it is to have the administrative committee select an advertising agency, if there is an advertising program involved. How much more effective are the regulations when the producers and the people affected draw their own regulations. How much more effective when the government employee acts as the umpire who protects the public interest and sees that equity is done; who concerns himself with those things and does not have to defend himself for the policies which he may have created or which he may have set to motion, as compared with the decisions made by the people affected.

Marketing orders that thrust the responsibility on those affected bring about a better understanding of the facts of the industry. It causes the producers to know what the problems are; it means the producers will make their economic decisions based on a knowledge of conditions. Above all, it is a democratic American way of meeting with complex American problems.

The dynamic changes in the marketing structure which have taken place since the war and will, no doubt, continue to take place, create a need for marketing tools such as marketing orders and agreements. An additional tool which may or may not work in conjunction with a marketing order is the cooperative bargaining association.

In our own experience, we have found these two tools work well together; they compliment each other.

The changes in the marketplace lend urgency to the need for the proper tools. The changes in the marketplace, when coupled with the bargaining strength of labor and bargaining strength of the distributors of farm supplies, point up the need for improving the bargaining strength of the farmer. As the farmer battles to secure his fair share of the food and fiber dollar, and at the same time meet his rising costs, he needs to improve his bargaining strength. Bargaining strength is not enhanced through subsidies or Federal payments. Bargaining strength is enhanced only through the development of marketing power by the farmer.

The farmer can secure marketing power through the use of tools such as marketing orders, marketing agreements, and bargaining associations. Bargaining strength cannot be achieved by negative approaches. We do not improve our situation by arguing against the consolidations that take place among our customers, or arguing against the fact that the American system of food distribution is becoming more and more consolidated into few hands. These are market facts with which we must deal. As farmers, we need to put our emphasis upon developing our own strength. Today we need to pool our economic resources. We need to improve our bargaining power as individuals through cooperation and by using modern tools; we need to measure our economic decisions by determining how they affect the bargaining power of the commodity we are producing. To do this we not only need the proper tools, but also the skill to use them.

Today's farmer producing food for the market is faced with a situation in which nearly 80 percent of the distribution of food in America is in the hands of less than 100 organizations. Unlike labor, farmer bargaining strength has built-in regulators, built-in limitations; no commodity can afford to price itself out of the market; nearly every commodity can be replaced by a competitive one. People do not have to eat cling peaches. There are substitutes for each commodity — whether it be food or fiber. In the modern supermarket, there are over seven thousand items available for the consumer; each may be different, but none is unique. If our economic system is to survive with the best characteristics of enterprise and the free functioning of individuals, we need to embrace a way of operation that might well be described as cooperative individualism. I emphasize I did not use the phrase "collective individualism" which is a self-cancelling expression. Most of us want no part of a "collective individualism." Most of us are intellectually capable of participating in cooperative efforts without sacrificing our individual personality.

Neither a marketing order or a bargaining association can set aside the influence of supply, demand, competition, or the national economy. By pooling the resources of many, it can give strength to all. Through marketing associations such as ours, and through the use of marketing orders and agreements, we can secure the accurate knowledge of the factors of supply and demand and the economic conditions and competitive forces that we need to know about in order to make sound intelligent decisions.

The key to the success of a bargaining association, just as with a marketing order, depends upon the intelligent use of bargaining strength. Bargaining associations must provide the greatest talent available to meet buyers on a common ground at the bargaining table. They must employ the highest skills their product can afford.

The bargaining association must be a voluntary organization. The member who is dragooned into the association will have no loyalty to the cooperative and loyalty is a prime ingredient for a successful association. A bargaining association must be an innovator of ideas since these are the signs of leadership and responsibility. It must be the master of powerful persuasion, rather than a brute force manipulator. The bargaining association must have policies of high principle, since in the production of food for a Nation the farmer assumes greater responsibility than any other segment of society for the welfare of the citizens.

In the ultimate, the bargaining association must be a tool by which individual farmers can pool their production to achieve their rightful returns while furnishing the Nation and the world with the ample supply of food so necessary to prevail and to progress.

The tools which I have described may be effective tools, but effectiveness is directly related to the manner and skill with which the tools are used. Marketing orders and agreements should not be Government programs. They should be commodity programs designed for the farmers in a commodity, operated by the farmers, and the handlers affected with the full burden of responsibility where it belongs — on the producer, on the handler, on both. Economic and marketing decisions made by Government or Government employees can never be as successful as when they are made by the people involved. Marketing orders and agreements involve the use of the police powers of the Government to impose upon all those regulations and conditions calculated to improve the market, the price, and the bargaining strength of the producer. With marketing orders, the powers of Government are used to bring equity between producers and/or handlers, to protect the public interest, to regulate, not decide, to guide, not to lead, to respond to practical and sound marketing and production decisions, not to dictate. Marketing order programs demand of Government officials the highest skills to effectively carry out such programs. This is not an easy, nor a simple task. Rather it is a challenge that appeals to the dedicated public official anxious to serve in the best tradition.

IMPROVING TRANSPORTATION OF AGRICULTURAL PRODUCTS
(Grower Viewpoint)

James T. Duncan
Florida Fruit and Vegetable Association

Historically, agricultural transportation has been an integral and important part of the national transportation system. The Interstate Commerce Commission said in 1932, in Docket 23400, Coordination of Motor Transportation:

"Historically speaking, the railroads have brought into being over a span of 100 years a transportation system which was calculated to develop and serve every essential need for land transportation. Their systems reach into practically every county of the Nation and embrace a network of interdependent main, subsidiary, and feeder lines. The cost of serving many points which neither originated nor received traffic in sufficient volume to make the service rendered profitable was borne from the returns of the system as a whole. Communities developed which were solely dependent on a permanent year-round rail transportation service."

In that investigation undertaken for the purpose of securing needed information in regard to transportation by motor vehicles, * * * and for the purpose of determining the necessity, if any, for legislation regulating interstate transportation by motor vehicles, the report embraces some 167 pages, of which approximately 8-1/2 pages list the names of attorneys and representatives of rail and motor carriers, regulatory commissions, and industrial organizations. Significantly, only three of those appearances were in behalf of agricultural interests; there was no representative from the agricultural interests of the Southeastern United States. It is not surprising therefore that the report is devoid of any substantial consideration of the needs of agriculture on a national scale or by the Southeast. That report, in effect confirming the 1931 Annual Report of the Commission, was the forerunner of the Motor Carrier Act of 1935.

The Commission regarded its recommendations in Docket 23400 in the light of a progress report, and said: "They represent merely the first step which we believe it is wise and practicable to take under existing conditions." Among the recommendations was one "that immediate authority be exercised over motor trucks * * *

"to the extent necessary to locate those which are operating in interstate commerce and obtain from them such information in regard to their operations as the commission may reasonably require. In this way data will be secured which will be of great aid in pointing the way to further regulation in the public interest."

Some of the more important statements in that Report are the following; much of which, you will observe, relates to products of agriculture:

"The problem with which we are here concerned is essentially an economic one; legislation and regulation are involved but only indirectly. The primary purpose sought is the more effectual coordination of rail, water, and motor transportation."

"The importance of truck traffic is not measured solely by its volume. The influence it exerts over railroad rates is probably equal in importance to the revenue effects of actual traffic diversions."

"Trucking of livestock rests in part on the convenience and advantages in marketing which it affords the shipper and in part on a saving of certain of the marketing expenses. The haul from farm to a local shipping point is eliminated, small lots can be disposed of without delaying until a carload is accumulated, speedier delivery can be effected on a majority of the movements, and advantages can be taken of daily price fluctuations."

"Cream and butter are also being moved over the highways for increasing distances."

"Closely associated with the movement of cream and butter is that of live poultry and eggs. Practically all of such traffic from many local points is by truck. Buyers are making direct deliveries for increasing distances to hotels and other large consumers."

"The trucking of milk is a matter of long standing. Special equipment has been developed and the marketing organizations in many localities have adapted themselves to truck movements."

"Railroads in many sections of the country called attention to losses of traffic in fresh fruits and vegetables."

"Truck sipments of fruits and vegetables for distances beyond 20 miles of place of production are estimated to have been the equivalent of 150,000 to 200,000 carloads."

Remember this was the Commission speaking in 1931.

"Contract truckmen find 40 miles about the limit of profitable operation for such low-revenue producers as potatoes, while on highly perishable products, which take high rail rates and require refrigeration for rail movement, trucking may occur for distances up to several hundred miles."

"Although there have been trucking movements of cotton for a number of years, these did not become of importance until very recently."

"The advantages of truck transportation from a service standpoint are to be found mainly in the speed, the completeness, and the flexibility of the service rendered."

"However, many commodities for which trucks are bidding, such as * * * certain fresh fruits and vegetables, * * * either require the same packing, however they move, or require no packing at all."

"The record is silent as to the railroads making any use of or taking any definite attitude toward motor transportation prior to the period of traffic congestion incident to World War I. At that time the roads, mainly in the East, which faced congestion in its worst forms, were not unwilling and in some cases urged that traffic be diverted to the highways. With the passing of congestion came a period of renewed indifference to highway transportation, * * * ."

"As highway transportation grew in importance in the postwar period, some railroads foresaw its potentialities as a competitive and complementary facility more clearly and acted with greater promptness than did others. Their responses may be grouped under two major heads: (1) Efforts of a directly competitive character, and (2) efforts in the direction of utilizing motor transportation in coordination or conjunction with rail. Competitive efforts have taken the form of improved rail service, reduced rates, and motor operations independent of rail service."

"Regulation of rail carriers was begun when motor-vehicle transportation was unknown, and amendatory legislation since that time has taken no cognizance of motor transportation as a major transportation agency. The transportation Act, 1920, the last general legislation relating to national transportation, was enacted before motor transportation had reached any considerable proportions. Important and radical changes have taken place in transportation and distribution since 1920. With changed and changing conditions laws regulating transportation of interstate commerce should be revised to meet existing conditions and future needs."

"Highway trucking is a comparatively new industry made up of generally small-scale operators who lack the effective organization and full service and financial responsibility generally required of public service agencies; the industry is, however, functioning with increased effectiveness and is of sufficient age to have demonstrated its inherent aptitudes and limitations."

"So far as this record shows, the demand for Federal regulation of the transportation of property by motor truck comes mainly from the railroads. There is little present demand by shippers for such regulation."

"It is not our thought that anything should be done to suppress new means of transportation, such as those supplied by motor vehicles, which augment and improve the service furnished to the public. It is our thought that regulation should be provided which will minimize injurious consequences by restraining competition within reasonable limits, encouraging desirable coordination between the rival forms of transportation, and stabilizing rates and financial conditions."

In the recurring discussions relating to exemption or regulation of agricultural haulers, there is an important fact which is too often overlooked or disregarded: nearly all of the agricultural trucks are operated by small business. A single owner may and usually does operate or control either one truck or a very small number. There are many thousands of such operators, in contrast with the relatively few Class I Railroads who participate in the transportation of our agricultural products.

In connection with their recommendation in Docket 23400 for regulation of rates, charges, practices, service, and other matters in connection with motor truck transportation, such as the Commission exercises in the case of railroads, the Commission took special note of this practical problem, saying:

"Special and unusual difficulties, however, surround such regulation. One is a practical difficulty. It has been found impossible in this investigation to determine the number of motor vehicles operating as common carriers or contract carriers of property, or transporting the goods of their owners, in interstate commerce. Nor is it known how many concerns or individuals operate such trucks. The indications are that the number of operators is very large, and that the operations are mostly on a small scale. If this is a fact, as it appears to be, the practical difficulties of regulation are vastly increased. Regulation which is appropriate and practicable in the case of a comparatively few large, well-organized companies may be quite impracticable in the case of a multitude of individuals or small concerns."

It is a matter of history and of common knowledge by all associated with transportation of agricultural commodities that the Motor Carrier Act of 1935, now Part II of the Interstate Commerce Act, brought under regulation large segments of the motor carrier industry. We, in agriculture, have no quarrel with that fact. Likewise, however, it is equally true that for 26 years it has been the law of the land and a part of our national transportation policy that economic regulation does not and should not apply to motor vehicles transporting nonmanufactured agricultural commodities.

The products of agriculture in this country will continue to be an integral and important part of the national transportation system. It is evident that there is and will continue to be a need for all modes of transportation to move these products to market, including exempt motor carriage for the transportation of nonmanufactured agricultural commodities. On this point there may be some slight disagreement. The Interstate Commerce Commision has on numerous occasions recommended to the Congress that the agricultural exemption be restricted to the so-called "Primary Market" — a theory which would for all practical purposes eliminate the exemption in many areas, and in others create a "Battle of Interpretations" that would be a source of confusion and harassment for years (and many litigation dollars) to come.

Likewise, for years the railroads have been seeking repeal of the exemption. More recently, however, the AAR position has been repeal and/or extension of the agricultural exemption to the railroads. We believe their prime objective to be the former as few questions have been answered by the railroads as to their plans for implementation of the exemption, if extended. I have on several occasions offered to recommend to our industry that it support extension of the exemption to the railroads, if some pertinent questions could be answered to our satisfaction.

It seems to be "the vogue" today and for sometime past to relate all the misdeeds of transportation by highway to the Agricultural Exemption, in one fashion or another. There are many other sections of the Act, and I can't believe a further redefinition of the "agricultural exemption" will go so far as many seem to predict in curing the ills of the common-carrier industry generally. Perhaps we in agriculture are more important than we think! Our importance, whatever it may be, is a matter of special concern to us, and since we know the exemption is important to us, that is one of the reasons why we feel strictly legitimate transportation under Section 203 (b) (6) of the Act should not be associated with the so-called "gray area," "black area," or any other area that suggests impropriety in any sense of the word.

I know first hand that readjustment of transportation practices for the perishable industry must be approached with a great deal of caution. The serviceable equipment in the railroads' "Yellow Fleet" has declined to the point that shortages or near shortages become more pronounced each season, particularly when the volume of shipments is above average for any period of time. This is so notwithstanding the large volume moving by motor truck, all of which emphasizes the "abundance of caution" with which we must move, if catastrophe is to be avoided.

Only a very small portion of what we produce is consumed at the point of production, and the vast volume of production moves not only to the great centers of urban population but also to the many thousands of smaller communities throughout our nation. This distribution and marketing has been possible because of our modern methods of transportation. We need all of the available forms of transportation, for each provides the advantages inherent in the peculiar operation and facilities thus afforded. We need the competitive influence not only as to the transportation rates and charges but also for advancement of the flexibility, dependability and volume capabilities of the particular modes of transportation.

One reason for the expansion of motor truck facilities was the delayed recognition by rail traffic officials of the now undisputed fact that the railroads no longer have a monopoly on transportation. An important cause of the tremendous increase in highway transportation following World War II was the repetition of rail freight rate increases - at least 14 separate proceedings in a relatively short period of time, and many more than 14 instances of increases in transportation charges. There were other instances where responsible rail traffic officials initiated rate revisions for the purpose of retaining the traffic on the railroads; but even with those necessary revisions, there were unfortunate instances when such revisions were nullified by concurrent attempts to increase the rates thus being reduced.

For the last several years, there has been a much greater stability of all the rates on agricultural commodities. The railroads have evidenced new vigor in promoting technological improvements; in really becoming competitive service-wise, equipment-wise, and cost-wise in some areas where they have been losing traffic to competing modes of transportation. I refer particularly to the volume grain rates which the Southern Railway presently is attempting to put into effect for the movement of grains in "special equipment." I refer, too, to the rates in dollars per car published in November 1957, applicable to fresh fruits and vegetables shipped from Florida. It might be of interest to know that during the past season the railroads' proportion of the fresh vegetable traffic from Florida was some 6 to 8 percent greater than was the case prior to November 1957. The adjustment certainly played a part in this picture. This approach will achieve far more than the legislative route.

Legislative intent and productive results do not necessarily go hand in hand. The Transportation Act of 1958 made certain "roll backs" in the agricultural exemption, subjecting among other things frozen fruits, berries and vegetables to complete economic regulation by the Interstate Commerce Commission. General Doyle, who as you know was Head of the Transportation Study Group of the Senate Interstate and Foreign Commerce Committee, asked the USDA to make a followup study to determine what problems and changes, if any, had been encountered during the transition period. This was in August 1960, two years following the roll-back. This study reports in effect that in many instances the service required not only became more difficult to find, but more expensive than was the case prior to the roll-back. We in agriculture in my section have supported what we consider to be proper legislation related to the "exemption" and at the same time have attempted to protect the "exemption" for what it was originally intended to accomplish; to permit free movement of non-manufactured products of agriculture. Our position has not changed.

I know that I speak the views of all of agriculture when I say that without transportation, adequate, efficient, rapid and economical, the agricultural producers of our Nation could not exist. We grow our products for the two-fold purpose of providing Americans with the most healthful and diversified food supply of any peoples on earth, and for the purpose of earning, if possible, a decent living for ourselves and our families.

IMPROVING TRANSPORTATION OF AGRICULTURAL PRODUCTS
(Railroad Viewpoint)

D. W. Brosnan
Southern Railway System

We have the job of moving crops and livestock to market. Of serving the American farmer and the public that consumes his product efficiently and well, and, above all, at the very lowest charges that we can profitably generate. This is a duty.

There was a time when railroads engaged directly in the work of promoting agricultural progress. Long before there was any extension work under the U.S. Department of Agriculture the railroads employed many specialists who advised farmers on the same kind of problems county agents deal with today. Railroads had production specialists and marketing specialists; they encouraged farmers to believe they could do better jobs of farming. They helped show them how. And they worked with them to get crops and livestock to market centers in best possible condition for sale.

Railroads have never ceased to have this same interest in the well-being of the agricultural regions they serve, even though the immediate job of farmer assistance has been taken over by Federal and State agencies and State universities.

Getting farm output to market remains as a major responsibility of railroads, even in this day when competitive modes of transportation attract substantial shares of available business.

There is more transportation today than ever before in the history of man. A large share of it moves by private barge and private truck under agricultural exemptions, but regulated only when moving by rail. It is in the public interest to also permit the railroads to haul these farm products without regulation.

All common carriers — barge, truck, and rail — must find cheaper and better ways to win this traffice from private carriage, and the regulatory bodies must encourage rather than hinder them, or the future for all the common carriers is pretty bleak.

The rates of each type of carrier should relate to the costs of that carrier and not to the costs of any other carrier. Rail rates should be based on rail costs, and not those of competitors. Farmers and the consuming public are entitled to the cheapest rate that can be had without regard to the mode of transportation, and certainly without the unconscionable waste of higher costs from umbrella protection of more costly, or wasteful, or less efficient, transport. Simple justice for our people demands this.

There are very large volumes of traffic moving under agricultural exemptions by people and companies who have no connections with farms. The agricultural exemptions were designed to permit the farmer to move his product from his farm to place of sale without subjecting him to regulation. Various courts and commissions have extended these exemptions from regulations to large grain companies, processors, and so-called "gypsy" or itinerant truckers who are not farmers.

This abuse of the agricultural exemptions has brought about a "gray area" of transportation that alarms all common carriers — rails and truck — as well as the Interstate Commerce Commission. Some of these gypsy truckers are also hauling nonagricultural commodities which are subject to regulation. The entire common carrier industry is threatened.

This threat is a danger, too, to the agricultural interests of our country that must rely upon transportation — dependable, responsible, and available — when crops must be moved and livestock marketed.

Under suspension presently by the Interstate Commerce Commission, Southern Railway's volume transportation rates for the movement of grain are in broad use in intrastate service in Georgia. South Georgia corn growers and North Georgia poultry producers are the two primary groups that are presently benefiting from these lower rates. And, the public in general is benefiting. Now, other State authorities have asked us to publish the rates in their States, which we are doing.

The entire Southeast and the rest of our Nation are entitled to participate in these benefits of low-cost transportation. From their support, it is evident that they are determined to have them.

A number of years ago we realized that there was a constant erosion of our traffic — that we were hauling less and less of the total volume of bulk traffic, such as grains, and other commodities. We launched a study to determine what we could do about it. Was there anything we could do to build traffic volume? Or were we to look forward only to a future that would bring nothing but further attrition in traffic as it went to other modes of transportation?

We knew that we had an excellent railroad property, built up over the years into a highly-efficient functioning and serviceable transportation network. We knew that we could handle far more traffic than we were getting. We knew that we could handle a greatly-increased traffic load with relatively little increase in costs.

To put this into very simple terms, we were something like a housewife who had a 20-cubic-foot freezer only partly filled. As you all know, the operating cost of such a unit would not increase greatly if the entire capacity were put to use.

We wanted to put our capacity as a volume transportation agency to use. By spreading our costs over more traffic, we stood to gain financially while we could also extend benefits to shippers and the public in the form of reduced freight costs.

We found there were a lot of things for us to do. The most important was that we had to abandon a good many old concepts about our limitations. I am sure I speak to understanding people when I say that we faced many of the same problems the agricultural industry has faced in getting acceptance for new production and marketing concepts.

We didn't announce our grain rates until we knew that our costs and services would permit us to back up the rates we offered for 5-, 10-, and 20-car movements. And I assure you we did not announce the drastically-lowered rates until careful study told us we could make money on these rates and that there was an available volume of business large enough to justify our intensive effort to carry it in railroad cars. These studies took time, but they gave us the picture and pointed the way to profit from better service at less cost through the elimination of waste.

Much has been said about single-car rates. In the first place, the published barge minimum is 750 tons. Southern's multiple-car minimum is 450 tons, which on its face is far more equitable.

However, when we have established the rightfulness of our multiple-car rates we will be happy to publish single-car rates. Naturally, they must run at somewhat higher rates per car than our multiple-car rates produce in order to offset the higher cost of such single-car shipments. Nevertheless, single shipments in our 100-ton cars will move at much lower per-ton rates than is possible with the present 50-ton cars and rates.

These are no ordinary railroad cars that we are using for moving grain under our multiple-car rates. They are among the largest cars in cubic volume and weight capacity ever built for regular service on American or any other railroads.

Two months ago, when it was clearly evident that our grain rates were very attractive to shippers, we ordered an additional 200 aluminum covered hopper cars of 100-ton carrying capacity and with a 5,000-cubic foot volumetric capacity. Each of these cars will cost about $23,000, nearly $5 million for the lot. But they are worth the cost — they have capacity to move freight at unheard of low costs. Their dynamic production opens the door to a new economic life for us and to those to whom we have the duty to serve.

We used aluminum because we could cut down the weight of the car by from 7 to 12 tons, depending upon type, and haul a larger volume of revenue-producing freight in each car, instead of hauling deadweight of cars. We are paid only for the freight carried in a car. Excessive deadweight resulting from heavy cars costs us money as we haul it back and forth on our railroad. What we did, in fact, was to swap this expensive deadweight for payload. The result is a dynamic improvement in ability to lower costs and make money.

There are other savings, too. With cars twice as large as those conventionally employed before our purchase, we found that we were getting twice as much hauling capacity at little or no increase in cost. In other words, we can haul 100 tons of grain in one car at practically the same cost as we can haul 50 tons of grain in one car. There are other economies, including less switching and less paper work, that even further reduce the cost per ton of grain handled. In addition, we realized that we had wheels to buy for only one car instead of two; draft gear to buy for only one car instead of two; air brake equipment to buy for only one car instead of two; much less deadweight and investment per ton of haul capacity than for two cars. We kept counting — greatly decreased switching because five cars coupled moving as a unit require only one switch versus the same one switch for a single car; less paper work, and many other items — all profitable.

You will realize that the elimination of these items or their reduction simply means eliminating waste, to the benefit of all of us.

We are proceeding in other ways. We built a new super-sized boxcar that is now moving on our lines with test loads of tobacco and other bulky lightweight products. We presently haul 24 to 28 hogsheads in conventional boxcars. This one, with 10,000-cubic foot capacity, carries 97 hogsheads. The arithmetic is easy. The shipper and the consuming public will gain from the lower costs and rates these cars will produce.

These cars are so large — 85 feet long — that we have put skylights in them to afford light for loading and unloading, and that is something new in railroading!

I know that the details of freight car construction and train operations are not your primary concern. I mention them only to show you how and why we can offer the very substantial reductions in grain rates which are incorporated in our new tariffs. The same principles which enabled us to offer these reductions have allowed us to offer similar reductions on the movement of other commodities — such as coal and alumina, to name just two — and they will enable us to offer similar reductions in the future on volume movements of other commodities, including the products of agriculture.

We're in much the same shape as farmers are today who are intensively cultivating fields and getting production that was never possible before better seeds, modern fertilizers, and technological improvements in farm equipment became available to them. By this effort the farmer keeps down, and even lowers, costs of foodstuffs for those to whom he sells. That's what we're doing with transportation costs, and we are just beginning.

Southern will continue to offer good service to the public at the lowest possible rates we can profitably generate. We know this to be in the public interest. We are certain it is good business. Nowhere can these two things be seen more clearly than in the working relationship between the great volume producer of foodstuffs — American agriculture, and the greatest volume mover of freight — the American railroads.

IMPROVING TRANSPORTATION OF AGRICULTURAL PRODUCTS
(Regulatory Viewpoint)

Rupert L. Murphy
Interstate Commerce Commission

The Interstate Commerce Act, like most regulatory statutes of general applicability, contains a number of exemptions. Among the most significant are the exemptions pertaining to agricultural transportation. Section 203(b)(4a) covering motor vehicles controlled or operated by a farmer and used in the transportation of his agricultural commodities and products thereof or in the transportation of supplies to his farm simply serves to place these operations specifically in the field of legitimate private carriage. This provision has provoked little controversy.

Section 203(b)(5) providing for the exemption of motor vehicles controlled by cooperative associations, as defined in the Agricultural Marketing Act of June 15, 1929, falls into a somewhat different category. Recent years have seen the appearance of a number of cooperatives of questionable legitimacy claiming the benefit of the "co-op" exemption. This trend has been viewed with growing concern by the Commission, the States, and the regulated carriers. The Commission has instituted a number of investigations in this area and formal complaints alleging that this exemption is being utilized to cloak for-hire operations have been filed by interested carriers. In the spring of this year, the Commission issued a landmark decision in Docket No. MC-C-2488, Machinery Haulers Association, et al. v. Agricultural Commodity Service, construing and interpreting the scope and application of the "co-op" exemption. Since further litigation before the courts or the Commission can be anticipated in the proceeding, I am not in a position to review the case in any detail here today.

Any discussion of the regulation of agricultural transportation, of course, must revolve around the agricultural commodity exemption of Section 203(b)(6). Few, if any, provisions of the act have presented the problems of administration and interpretation faced by the Commission in dealing with this exemption. Our basic difficulty lies in the fact that there has not been, and probably never will be, any general agreement as to the scope of this exemption, the exact meaning of the statutory language, or the underlying legislative intent. Aside from the well-known controversy as to its applicability to particular commodities, many have long held the view that it was the intent of Congress merely to exempt from economic regulation the initial movement of farm products from farm to market.

On the other hand, there are those who are convinced that this exemption was intended to provide an extensive system of unregulated agricultural transportation in the hope that better and lower cost service would be available at all stages from production to final consumption of farm products. The proponents of this view, of course, contend that these savings in transportation costs represent a contribution to basic farm income.

Initially the Commission, following the general rules of construction applicable to an exception to a remedial statute such as the Motor Carrier Act, sought to construe the exemption strictly. You are all familiar with those early decisions applying the so-called "poisoned vehicle" test or excluding all processed and manufactured products. However, these attempts to limit the scope of the exemption by means of administrative determination met with little success. Also the Commission's efforts to obtain legislation specifically limiting the exemption to the initial movement from farm to market have failed of accomplishment.

Court decisions and amendatory legislation quickly established that the commodity transported, rather than the vehicle utilized, was to be the principal factor in determining the applicability of the exemption. Over the years the Commission's efforts to restrict the exemption to basic farm products repeatedly were overruled. Construing the definition of agricultural commodities as embracing fresh and frozen poultry and frozen fruits and vegetables, the courts steadily expanded the scope of the exemptions. The first reversal of this trend came with the enactment of the Transportation Act of 1958 which nullified to some extent the decisions of the courts by specifically placing frozen fruits and vegetables and certain other commodities under regulation. Nevertheless, an extremely broad exemption still stands, under which a tremendous volume of traffic moves free of economic regulation. Today the problem thus concerns itself not so much with the original justification for the agricultural commodity exemption but, rather, with the fact that there has developed in connection therewith a huge unregulated competing major transportation system for exempt traffic, using large and modern equipment, between important commercial centers which poses a threat to the regulated transportation industry.

No similar problem apparently exists in the various States for generally they have confined their regulatory agricultural exemptions to the initial movements from the farm to the first market and have not allowed thereunder, for example, the transportation of processed commodities from producing plants to the retail marketing points. The resulting inconsistency whereby interstate traffic moving over long distances and far removed from the point of initial production is exempt while shorthaul intrastate movements of similar traffic are subject to State regulation seems apparent. The 73rd Annual Convention of the National Association of Railroad and Utilities Commissioners, held at Atlantic City in late September of this year, adopted the following resolution:

That the National Association of Railroad and Utilities Commissioners support the enactment of an appropriate Amendment to Part II of the Interstate Commerce Act that will permit transportation of agricultural commodities to be exempt from regulation by the Interstate Commerce Commission only on the initial movement from farm to initial market.

In dealing with the overall problem we are considering here — and I think you will agree that it is a problem — we must keep in mind certain basic facts and principles.

First: The Nation's transportation system is an essential and inseparable part of the national economy, or productive mechanism, and is essential to our national defense.

Second: The regulation of transportation exists for the purpose of maximizing, in the public interest, the contribution of the transportation system to the development of the national economy and to the furtherance of our defense effort.

Third: The Commission has sought, and continues to seek, as a matter of policy, to avoid extension of the scope of regulation beyond those areas in which regulation is clearly necessary to protect the public interest.

Fourth: The purposes of regulation cannot be accomplished fully and a strong national transportation system achieved if a substantial proportion of an industry subject to regulation is exempted therefrom.

Today the greater part of intercity transportation by motor carriers is rendered by carriers not subject to economic regulation. Of the approximately 288.5 billion intercity ton-miles of highway transportation in 1959, only 101.3 billion, or 35.1 percent, were rendered by common and contract carriers operating under the Commission's authority. Of the 101.3 billion ton-miles, common carriers performed 90.5 billion and contract carriers, 10.8 billion. If the traffic moved by all exempt haulers and cooperative associations, excluding the haul from point of production to local markets, were added to the present ton-mile performance of all common carrier modes, the increase would amount to a gain of something like 6 to 10 percent. Applied to 1959 traffic, the increase would have added between 52.5 and 87.5 billion ton-miles to the 874.4 billion total for common carriers, assuming effective control over the additional traffic brought under regulation. Since it is probable that any amendatory legislation diminishing the scope of the exemption would contain a "grandfather" provision, the full amount of the traffic brought under regulation would not accrue to the present system of regulated common carriers. However, any carrier thus brought in to the common carrier system would then be required to compete on an equal basis.

Even more substantial gains for common carriers could be expected from removal of the opportunities and incentives for unauthorized operations now provided by the existence of the exemptions, and from better enforcement made possible by restricting the volume of legally exempt traffic. A further gain also might well accrue to common carriers through voluntary abandonment of private carriage by many shippers due to a lowering of the costs of regulated for-hire carriage coupled with better common carrier coverage of territory and more frequent and reliable service, and the stabilizing effect of a more complete regulatory coverage of the industry.

Any proposals by this Commission involving a reduction in the scope of exemptions stem entirely from conviction that such action is required to restore health and vigor to our transportation industry, rather than any desire to enlarge its regulatory sphere. That the Commission desires to avoid any unnecessary extention of its regulatory authority is indicated by the caution with which it approached the regulation of motor carriers. Even those advocating elimination of the agricultural commodity exemption have not and do not advocate taking from the farmer the right to haul his products from his farm to the first market. The Commission also is cognizant fully of the fact that before any action is taken to reduce the scope of exempt transportation of agricultural commodities certainty must exist that regulated common carriers will fill the gap thus created. It is to be expected, therefore, that prior to the enactment of any legislation along these lines, the regulated common carriers advocating abridgement of the exemption will be required to establish their willingness and ability to meet the service requirements of our agricultural industry at all levels.

The difficulty from the regulatory point of view is that a large part of the Nation's traffic is excluded from regulation by, or as an indirect result of the various exemptions, including that contained in Section 203(b)(6). As a result, the effectiveness of regulation is impaired and the purpose of regulation — in terms of the development of a sound national transportation system — is being seriously and progressively undermined.

The Commission's position in the matter is illustrated by the following statement of its representative before the Surface Transportation Subcommittee of the Senate on March 28, 1958, concerning exemptions in the Interstate Commerce Act.

". . . We are of the view that agricultural exemptions have been extended by judicial decision greatly beyond what the Congress intended. The Commission has for some time realized that the progressive broadening of the list of exempt commodities would have a ruinous effect on the entire structure of regulated carriage. The situation has reached such proportions that several groups of exempt carriers are now pleading for regulation. They have on this record detailed their plight and stressed the urgency of their problem."

"Apparently the principal purpose of enacting these agricultural exemptions was to benefit the producers of the commodities involved, primarily the farmers. However, as a result of a series of court decisions which began . . . in 1948, and ran through . . . 1957, the list is now greatly enlarged. Not only that, but these very exemptions are being used by commercial interests for their own advantage without any provable benefit to the farmer or producer, whose price is usually determined when a sale is made to a broker or dealer. Several haulers of exempt commodities have testified before this committee that by far the greater percentage of their service is performed for the processor rather than for the farmer or producer."

Our purpose in seeking a solution of the exemption problem is not to penalize the farmer but rather to prevent a breakdown of for-hire carriage — to avoid the development of a situation in which for-hire carriage rates, routes, availability of service, and financial responsibility could no longer be relied upon.

Common carriers undertake to provide transportation service to the public at reasonable rates without discrimination. In return, they are granted franchises which are designed to protect them from unjust and destructive competition. If unregulated competitors, not subject to the same obligations, are permitted to invade the field in order to make quick profits, without being responsible for regular or reliable service, the common carriers' franchises are not only worthless, but in view of their obligation to hold out service to the public may be a liability. The unregulated carrier destroys the value of the common carriers' franchise, not as much perhaps by taking away the opportunity to haul agricultural products, but by preventing the common carrier from achieving an economical operation by obtaining a backhaul of manufactured goods to balance his outbound movement of similar products. The unregulated carrier delivers the load of agricultural products and needs a backhaul. Often he finds a manufacturer who has a constant need for some standard commodity such as salt, lumber, feed, etc., which the unregulated carrier buys, transports and sells, under the pretense that he is hauling his own property as an incident to his business. Sometimes, to get a backhaul, he goes through the motion of leasing his equipment to a manufacturer or other shipper. By these and other illegitimate devices, the long-haul unregulated for-hire carrier undercuts the regulated common carrier, and, if permitted to continue and expand his operations, ultimately threatens the destruction of dependable common carriage.

It should be emphasized that in discussing the effect of diversion of traffic from regulated common carriers resulting from the exemptions, I have reference to the common carrier industry as a whole including rail and water carriers as well as motor carriers. The railroad industry has taken the position that the exemptions applying to the transportation of agricultural products by motor vehicles and to bulk commodities transported by water carriers either should be repealed or extended to the transportation of such commodities by rail. Extension of these commodities to rail transportation would accelerate the rate of decline of common carriers by broadening the area of unbridled competition. Moreover, it would serve to widen the area for discrimination against shippers, one of the abuses which led to the establishment of regulation in the first instance.

Recent experiences of the railroads serve to illustrate the extreme vulnerability of the common carrier to the competition of the exempt motor carrier in the agricultural field, as well as the detriment to the public, which results from a waste of transportation. One case in point occurred in this area. Carrier and car-line representatives canvassed shippers in order to determine estimated car needs to move an upcoming crop. These representatives were assured that a good percentage of the crop would move by rail, and consequently arrangements were made to move sufficient refrigerator cars to the area and to contract for ice to insure protection of the estimated perishable traffic. At harvest time the market conditions were very favorable, and itinerant truckers were favored with most of the traffic, resulting in hundreds of unused refrigerator cars and a corresponding loss to the carriers in iced equipment.

On that occasion, the rail carriers were the principal sufferers. However, in such situations the agricultural shipper does not always escape unscathed. A typical example is provided by an occurrence in the southwestern part of the country. The normal number of refrigerator cars was assembled to meet the annual requirements, but as the crop was harvested the traffic was diverted to exempt truckers, with rail cars standing idle. The following year, based on the utilization of rail cars in the previous year, the railroads did not assemble nearly the number of cars in this area as they had done previously; and at harvest time the truckers who had hauled the bulk of the previous year's crop had found a more lucrative field and were not available to move the crop. Chaos and confusion prevailed until the railroads could move cars into the area. Severe losses were suffered from crop spoilage.

The alarming aspect of these inflated estimates of equipment requirements and the failure to utilize regulated transport when depressed rates, undercutting those of regulated common carriers, are dangled before the shippers' eyes, is that while cars are being held on a stand-by protective basis in one area, shippers in other areas are vitally in need of the equipment.

No one will disagree with the proposition that the public interest requires the preservation of our common carriage system of transportation. It hardly could be expected that this could be accomplished merely by restricting the scope of the agricultural exemptions. Other exemptions and statutory loop-holes will require similar treatment, all with the purpose of bringing under regulation most of the traffic now being transported by the unregulated carriers, either lawfully or unlawfully. In furtherance of our effort to arrest the decline of the regulated common carrier industry, the Chairman of the Commission recently presented to the Surface Transportation Subcommittee of the Senate Committee of Commerce a 9-point program calling for a tightening of exemption provisions, the strengthening of the Commission's enforcement powers and other measures which will help to restore the economic health of the ailing common carrier industry. Our proposal that the application of the exemption under Section 203(6)(6) should be limited to the trucking of farm products to local markets is but one aspect of this program. Included also in the exemption area are proposals that agricultural cooperatives and shipper associations be required to apply for and establish that they qualify for exemption from the act and that the bulk commodity exemption now applicable to water carrier operations be repealed. In the enforcement field, we have requested that Section 222(b) be amended so as to make the civil forfeiture provisions applicable to unlawful operations and safety violations and that the amount of the forfeiture be substantially increased. Such legislation would provide the Commission with the much needed enforcement weapon required to combat the spread of illegal operations. The balance of the program consists of our recommendations that legislation be enacted which will (1) allow a shorter life on depreciable property of railroads for Federal tax purposes; (2) provide for the establishment of a construction reserve fund on the books of common carriers subject to the Act; (3) amend Section 22 so as to permit the performance of transportation services for Federal, State and local governments free or at reduced rates only during the time of war or national emergency; (4) repeal the 10-percent Federal Excise Tax on passenger fares; and, finally, (5) provide for limited direct financial aid to railroads as a last resort measure where all other efforts have failed to assure the continuation of essential passenger service.

Our recommendations represent a constructive effort to improve the status of common carriage and there is no intention or desire to disrupt normal marketing channels or penalize either the farmer or the consumer of farm products. Thorough reflection will demonstrate that agricultural interests like all other segments of our economy stand to benefit from the development of a fully adequate national transportation system which cannot be realized unless we preserve and foster the essential element thereof represented by our regulated common carrier industry.

EFFECTIVE REPORTING — OUR GREAT OPPORTUNITY

H. P. Mileham
Office of Information
U. S. Department of Agriculture

What do we mean by reporting your work? Suppose we use a broad definition because your activities, your needs, and your audience are widesweeping. By reporting we mean communicating — telling the story of what you have done, are doing, and are trying to do. Telling it to the farmers, consumers, public, legislators, and others who have a right to know and who need to be informed if your work is going to succeed. Telling it by the written word or the spoken word or by visuals, whether man-to-man or by way of radio, television, or whatever.

I've taken the opportunity to review some of your reporting. While there's a good deal to commend, you'd be the first to say that you need to do a much better job of reporting your accomplishments, of telling your story. In terms of marketing, your reporting needs to be better in quantity, better in variety, better in quality.

Why do you need to do this better job of telling your story? Because you are not big enough, you are not numerous enough, you do not have time enough to do your work all by yourselves. You must multiply yourself and that means you have to get people to think, to act, to do. You have to change people — change their ideas, knowledge, attitudes, inertias, ways of doing things.

Better reporting means doing a better job of communicating something worthwhile. It is axiomatic that you must have worthwhile and important activities to report on. Then, with this important material, you must gear the story you tell to:

1. First, the audience.

   You must click with your reader or hearer. You must make him feel "This is important to me — or to us." You must try to put yourself in your audience's shoes so that you can find the connecting links between your audience, yourself, and your report. You must establish this rapport whether your audience is the public in general, farmers, consumers, legislators, the governor, the State commissioner, or a board or legislative committee.

2. Second, you must gear your reporting to the time. Choose the right time to tell your story, and, conversely, choose your story according to the time when you are going to be telling it.

3. And third, you must gear your reporting to the occasion. Certainly the story you tell, and how you tell it must fit the occasion.

If you think your story through and gear it to the audience, the time, the occasion, you can get a sympathetic hearing, you can spark favorable response, you can stimulate action. When you do these things, you have communicated — and you have helped yourself get your job done.

Perhaps your greatest challenge is to convey to others the importance of the work you do and seek to do. We accept the fact that it IS important. But we must communicate this importance to others. To do this it is very helpful to:

1. Know your objectives.

2. Know your facts.

3. Know what is important.

4. Know what is NOT important.

With these in mind, you can make the structure of your report very simple and easy. Just tell the five or six things you did. And, also, tell the five or six things you propose to do. Nothing very complicated about that, but it works.

If we do wish to report the five or six main things or ideas, what do we NOT want to report? Do not report the details or the incidental. No one cares whether you traveled 45,000 miles, that you attended 100 meetings, that you made 2,000 telephone calls. They are mere incidentals to what you are accomplishing, and that is the basis of your report. No one wants in the report of your work a dissertation on the agriculture of your State, or a treatise on economic condition. Yet how often we find them in a report and look in vain to learn what is being done. The reader might jump to the conclusion that nothing was done. These peripheral matters and details no doubt have a place, but remember they do not tell what you accomplished; they do not move anybody to do anything. The problems? Yes, make clear what the problems are. But be sure to tell what you are doing or want to do to solve those problems.

Where, or through what channels, do you report? There is no limit here. Anything that will carry an idea is a possible channel. I don't mean to give the impression that I think you are officed on Madison Avenue and have staffs and money to sponsor network TV shows, buy pages in national magazines, purchase billboard space, publish booklets, create exhibits and take them on the road. All such things must relate to the time, people, and money available to do them. Yet I'd like to emphasize that if you start the ball rolling with a good report or story in any of the communications media, you will find that others will be ready to help you multiply yourself. Do a good reporting job within your own limitations and you will find opportunities for bonus values on every side. Among the channels open to you directly, or indirectly as bonus values, are duplicated or printed reports, leaflets, newspaper and magazine stories, television and radio, slides, filmstrips, movies, exhibits, newsletters, and others. The available channels also include such events as marketing tours, special anniversaries of marketing significance, openings of new market facilities. Whenever you do a good job of telling your story on any of these occasions, others will want it. The press will want it, radio and TV will want it, the legislature will want it. Certainly your boss will want it, whether your boss be governor, State commissioner, board, or director of marketing.

While we are on this subject, permit me to say a special word on reporting to your boss or superior. Are you doing an adequate job of keeping him (or them) informed, not of the day-to-day routines, but of the significant developments, accomplishments, problems, setbacks, and opportunities? Unless you communicate these in highlight form regularly and frequently, how will your boss have the essential background to provide direction and support?

Communication does not take place without a receiver — a hearer, reader, or see-er who takes in your message. People will Stop, Look, Listen, and Read when you tell them something significant. They will pay most attention to the highlights or gist of what you say — if they can find them. They will pay attention to headlines, summary, recommendations, conclusions — that is, to highlights that you set out for their attention. Depending on their individual interests and needs, they will look further into more or less detail. So hit the highlights hard.

We have considered pretty much the Who, What, Where, Why, When of reporting your accomplishments. The main thoughts I want to leave with you are: You are doing an impressive job at this conference of planning or preplanning. Build reporting into your plans. Then, a good job of reporting can do these things for you:

1. It can get people interested in what you are trying to do.

2. It can get them to cooperate with you in doing it.

3. It can help you get money to pay for it.

Effective reporting is our great opportunity; it will "open up new markets" for you and for your work.

ELEMENTS OF A GOOD PROGRESS REPORT

Robert P. Callaway
Agricultural Marketing Service
U.S. Department of Agriculture

I do not intend to dwell on the style, organization, choice of terms, etc., that characterize a good report. Rather, I hope to point out some things which marketing service personnel can and should do to improve reports submitted under matching fund projects. It is not how, but what is said in reports we receive from the States that is of most immediate concern.

One of my first assignments when I came with the matching fund program in 1956 was to prepare the "Digest" — the annual summary of project activities and accomplishments in the States. Frankly, I was dismayed by the mass of material which sifted down to reveal so little real content. I learned, through my visits to the States, that progress reports gave an inadequate account of the work.

Gradual improvement is being made in quality of reports. Those we now receive are better organized, reflect a more conscious effort to evaluate benefits and accomplishments, and are less vague about what was done and what contribution was made by the State Departments of Agriculture concerned where the marketing program was a joint venture with other agencies.

The gains made are real and rewarding. But we have not by any means reached the standard of excellence to which we should aspire. Better performance in telling the story of your accomplishments is an attainable goal. That fact has been dramatically demonstrated by the performance of State Department of Agriculture representatives appearing on the program of this Workshop.

What measures might be suggested to upgrade the reports? Those I believe worthy of consideration are:

1. Plan ahead.

   A report prepared under pressure of an imminent deadline, on the basis of what the writer can recall at the moment, is likely to be an inferior product. Without advance planning the tendency is to dust off last year's report; change a few dates, names and figures; and let it go at that. We received one report in which the writer failed even to change the marketing year to which the report referred. One way to encourage advance planning is to require in each year's work plans a statement of procedures to be followed in measuring results.

2. Utilize assistance, records, and reports from other agencies or divisions of your Department.

   a. Cooperative Crop and Livestock Reporting Services — In a number of States the crop and livestock reporting service has cooperated with the marketing division in making surveys to identify problem areas in marketing and to measure results of action programs. This relationship should be encouraged.

b. Inspection Divisions. — Frequently, as in the case of egg law enforcement and product inspection, records are available from which valuable data may be secured on progress in improving quality. Not all States draw on these sources of information as they should.

c. Land-Grant Colleges. — Marketing service work needs a strong underpinning of research if it is to be most successful. Research studies made by the Land-Grant Colleges can be helpful in determining what kinds of marketing service projects need to be undertaken, and in measuring results. Research studies, properly designed and conducted, can be a most important tool.

d. Marketing Agencies. — States are making use of this source of information, but not as much use as they should.

3. Use more graphics.

Your reports can be measurably improved in structure and content by more liberal and judicious use of charts, graphs, and maps. Preparation of this type of material forces a closer scrutiny and evaluation of project accomplishments.

4. Establish training programs in effective report writing.

Marketing directors should encourage and make it possible for specialists to take formal training in writing, or make other arrangements to develop this skill.

5. Secure better-trained personnel for marketing service work.

This is a subject in itself. Without solid achievement, even a skilled writer cannot prepare an effective report. Some progress is being made in this area, but in some States it is painfully slow because of low salaries and lack of job security.

PREPARATION AND USE OF REPORTS

John A. Curry
Alabama Department of Agriculture and Industries

Every phase of marketing is moving forward at a phenomenal rate. This is the jet age; and what we do and how and when we report the effectiveness of our work is of prime importance.

In marketing research work we must be able to prepare and use various reports. The primary purpose of any promotion program is to enhance the sales and prices of individual products in the marketplace and thereby strengthen the income of producers. Thus, we must be able to evaluate the sales effectiveness of our promotion programs.

The first thing to understand is "Why we have reports." A report is primarily to acquaint other people with your findings. First, we must understand something about how to prepare a report. Regardless of who is to receive the report, we should have an outline.

1. The preliminary study
    - Collect all pertinent material
    - Consider whether you have enough data to support your conclusions
    - Choose a satisfactory working title
    - Check details
    - Consider the purpose of your report

2. Careful planning
    - Make a preliminary list of the major topics
    - Test those topics with reference to purpose and limits of the report
    - Arrange topics in definite order. Add subheads to complete outline.
    - Analyze and interpret the material at hand
    - Study published material
    - Provide charts and pictures if necessary

3. The writing
    - Write rapidly, tell the whole story without being concerned with the way you say it.
    - Whenever you can, avoid the passive voice and the subjunctive mood.
    - Write simply and clearly.
    - Then rewrite. An altogether different process and one that means the difference between an adequate and a good report.
    - Read the report straight through. As you go through the text, study the way you have treated each topic.
    - Ask yourself:
        - Do the discussions come in the best order?
        - Should the sections be rearranged?
        - Does a passage in one section fit better in another?
        - Did you say that before?
        - Is a sub-topic too detailed?
    - Make notes in the margin as you read, and at the end ask yourself if the material does what it is intended to do?

4. Criticism and revision
    - Check for balance and proportions of parts
    - Verify soundness of structural pattern
    - Discover any obvious cause of confusion
    - Try to eliminate dry or dull passages
    - See whether meaning is conveyed without headings.
    - Be sure there are enough headings and that these headings apply to the material under them.

Joseph Ulman says in "Technical Reporting": "Unfortunately, there is no neat formula for the organization of technical reports. Each report must be organized to fit its own subject, its own purpose, its own audience.

"The material in any report or paper should be presented in an order that leads logically toward a conclusion or conclusions. This does not mean, of course, that everything in a lengthy report will aim at one final climax; the various sections of the report are organized so that each of them has its logical conclusions."

But if there is no formula to help you, there is a state of mind that will — the critical attitude. It's hard for any author to be severe with his own child. But remember, all children need discipline. And if your writing isn't disciplined, it will, in the end, only embarrass its parent by being sloppy, confused, and not very useful .... and, it carries your name.

We have now completed the basic principles for writing practically any report. The problem for our discussion comes under four categories:

1. Reports to administrator on activities and accomplishments.

2. Reports to industry groups on problems and progress made in solving them.

3. Reports suitable before legislative bodies.

4. Reports to the general public.

A different type of report will have to be written for each of these groups. Let's discuss outlines for each group and then add or subtract under our final conclusions.

1. Reports to administrator on activities and accomplishments:

This report must be very detailed as more than likely it will be examined by various levels of the staff from the administrator's office on down. Listed in order will be the subjects necessary in giving a complete report.

1. Financial report and budget request.
    a. Available funds for the fiscal year just completed Federal and State.
    b. Costs - actual expenditures. Under cost should be personal services, travel, equipment and all other. Any unusual expenditures should be fully explained under remarks on the financial report.
    c. Budget request for the new fiscal year.
    d. Funds carried over from the past fiscal year Federal and State.
    e. Estimate of new funds for the new fiscal year beginning____________.

In the annual report to the administrator, each page should carry the State participating and the project number.

1. Project title
2. Project leader
3. Reporting period
4. Problems to be solved
5. Activities carried on
6. Results obtained
7. Cooperating agencies
8. Publications released under this program
9. Complete work plans for the next fiscal year

2. Reports to industry groups on problems and progress made in solving them.

When you write a report for people in the marketing industry, go the other way. Write as simply and clearly as you know how. Accept the guidance of those who can help you in the job of communicating. The same marketing report may be read with equal interest by a man with an engineering degree from Georgia Tech, a man with an administrative degree from Alabama, and a successful business man whose formal schooling stopped short of a high school diploma. Each of these men may speak, in effect, a different language yet each one of them may be earning a living in the same phase of marketing. It is your responsibility to see that your findings are available equally to each man. This means available in a language each can understand.

Your findings aren't of much value if they go only to swell a body of knowledge of things that are nice to know but aren't otherwise of much use. They are valuable largely only to the degree that they can be applied.

This is the day of highly competitive situations. Your report hits the desk of a man who is already surrounded by a tremendous volume of paper work. The report has to compete for his attention with daily newspapers, weekly newspapers, magazines, the radio, and T. V. It has to compete with the trade papers and the trade magazines with communications from several clubs, fraternal organizations, with invoices, inventory lists, tax forms and one hundred and one other items.

The man in industry does not have time to read everything that comes to him, any more than you or I do; so he does just what you and I do — he reads what he thinks is of the most immediate interest and benefit to him, and that he can get through quickly.

3. Reports suitable for legislative bodies.

This type of report is completely different from either of the first two we have discussed. In reporting to legislative bodies, they want to know:

1. Will it help solve problems of marketing agriculture products?
2. Legislative bodies need to know the scope of the program.
3. Examples of the work being performed or to be performed in the future.
4. Show how the work is being strengthened.

In many instances a number of our projects developed under this program have been taken over by industry financing. This means that legislative bodies will look very carefully at the report before appropriating additional monies to help marketing. They must feel that their constituents, the voter, is getting his money's worth for this program.

4. Reports to the general public.

You are aware of the value of publicity as a marketing tool. The general public must expand their knowledge of marketing and buying and you need to try to stir up their enthusiasm through the programs we are administering.

In most cases there is no adequate substitute for trained, experienced news specialists if you expect maximum results in the field of publicity.

In reporting to the public you would usually do it through newspapers, both daily and weekly, and the use of public service time on radio and T. V. In your newspaper reports you should show the cooperating agencies, and follow our original outline, but get it to the public in such simplicity and clarity that each and everyone reading the article will feel that something is being done for them. If possible, when you are giving a report on radio or T. V., try to get an announcer or personality of a station that has a good listening or viewing audience. You are dealing with other people who do not know your subject and, in most cases, care less; so you must get a unique approach or you will not get the coverage you desire. A report should not be placed in the local newspaper or on radio and T. V. at a time when it has no interest whatsoever to the general public. If you happen to be reporting on fresh strawberries from Louisiana, you certainly would not want your report to come out around Thanksgiving or Christmas; be sure the time is well selected.

A report to the general public is a most important tool, but it cannot be halfheartedly planned or executed if the desired goal is to be attained.

In most marketing programs the reader, listener or viewer is vitally concerned as a consumer, and cover it so they will want to know more.

ADMINISTRATION OF MARKETING PROGRAMS

WHAT THE NATIONAL ASSOCIATION OF STATE DEPARTMENTS OF AGRICULTURE CAN DO TO ADVANCE MARKETING

Phillip Alampi
New Jersey Department of Agriculture

The profitable marketing of the abundant food and fiber supplies produced by our highly efficient American farmers is our most challenging problem today. In the past few years many member States of National Association of State Departments of Agriculture have given greater recognition to the need for a strong division of markets to assist producers, wholesalers, processors, and distributors of food in marketing and handling practices. The Marketing Committee of NASDA recently established close liaison with the Federal-States Relations Committee of the National Association of Marketing Officials. These committees have worked together to improve Federal-States relations concerning marketing service programs, as well as other activities which involve State departments of agriculture, State divisions of markets and the U. S. Department of Agriculture. We have recommended an annual conference between the NAMO Federal-States Relations Committee, the NASDA Marketing Committee, and officials of the Agricultural Marketing Service.

It is essential that the State departments of agriculture assume leadership in marketing service programs in their respective States. We all have an obligation to the agricultural industry to provide it with the greatest amount of marketing services that are justified by the type and nature of our respective agricultural economies. It is obvious that without grading and inspection services it would not be possible for many of the products produced today to be traded over long distances or with confidence. Our activities — as impartial arbiters between farmer and processor or farmer and wholesale buyer and between wholesalers — are of prime importance in the mass distribution of farm products which is essential to the total economic welfare in our modern urbanized economy.

It is the duty of each State department of agriculture to encourage producers of important commodities to promote the sale of these commodities both within and beyond the borders of its State. In many cases after a program has been launched, it will be possible to turn over control of the promotional programs to the commodity groups themselves. It is essential that such programs be tied in with quality control programs that are impartially applied through the use of the authority of the State or Federal Governments in carrying out inspection and grading programs.

The marketing service area is extremely broad and comprehensive. It is in this area that such activities as market development and expansion, marketing facilities and layout, market news, transportation,and many other technical activities can be carried on for the benefit of all commodity groups by a well-staffed and aggressive division of markets. Many of these marketing service projects can be gotten underway with assistance of the Matched Fund Marketing Service Program of the U.S. Department of Agriculture. Monies that are allotted each year to many State departments of agriculture under this program furnish up to one-half the cost of marketing programs in the following areas: (1) Quality control, (2) market expansion, (3) market facilities and layout, and (4) gathering of statistical data for use in planning marketing programs. Once these marketing service projects are properly established many of them should be taken over and operated as a normal activity by the State department of agriculture, supported by industry funds or by State appropriation, or a combination of industry and State funds.

While much progress is being made in establishing agencies within State departments of agriculture that are responsible for all marketing activities, there is still much to be done. Some States have marketing activities spread among multiple, unrelated agencies rather than unifying them under a single administrator. Others have no marketing agency designated to assist producers in the State in marketing their products. Recent progress has been gratifying — Iowa and Missouri recently established marketing divisions, and Florida greatly strengthened its marketing division.

Several other States are considering establishing a marketing agency within their State departments of agriculture. It is encouraging to note that some of these efforts are the result of the attention being called to marketing needs by the Agricultural Marketing Service of the U.S. Department of Agriculture and the Marketing Committee of National Association of State Departments of Agriculture in cooperation with the Federal-States Relations Committee of National Association of Marketing Officials. We are looking forward to rapid strides among the States in the improvement of their marketing efforts.

Producers are expressing greater interest than ever before in producer-controlled marketing orders, agreements, and other techniques that will effectively control production or the supply of agricultural commodities. Federal marketing orders and agreements have recently been expanded in scope by the Agricultural Act of 1961. In addition, more than 18 States have enabling legislation for marketing orders and agreements. In view of these developments, it appears essential that State departments of agriculture engage competent legal talent to assist them in the drafting, issuance, and administration of marketing orders and agreements. Many of these programs require the use of regulatory programs involving expanded personnel and equipment.

Some of these programs require additional market service workers trained in promotion, advertising, merchandising, market facilities and layout, transportation, and other specialized fields. Producers are increasingly seeking the backing of the authority of the State as they pursue their efforts by commodity groups to improve the marketing of a specific product or a group of products. This is an area in which State departments of agriculture must become proficient and remain constantly on the alert for new developments if they are to avoid being caught unprepared to assist producers.

Communication in the field of marketing is extremely important. Closer and more effective coordination among all marketing agencies is urgently needed. We should strive to coordinate our activities to the point where no agency involved in Federal-State cooperative activities should take unilateral action in any matter involving policy without consulting the other groups concerned, NASDA and NAMO.

Conferences such as these are a common meeting ground for those engaged in conducting marketing service programs. Each year as we gather at this National Marketing Workshop we have an opportunity to discuss our policies regarding marketing service programs in our respective State departments of agriculture, the Federal

Government's programs and those being carried out with divisions of markets at the State level. It is here that we should resolve our differences to the maximum extent possible so that we can proceed to carry out our marketing programs as one united group effort.

Though research is not a normal activity for a State department of agriculture, it often becomes a part of an overall marketing program. Normally we look to the land-grant colleges to conduct research in marketing. In most instances these institutions are well staffed to conduct such programs. However, we must keep in mind there are many independent agencies as well as the U. S. Department of Agriculture available to conduct some of our research programs, particularly those that our colleges are not presently staffed to conduct. Research programs are often essential to develop sufficient data for preparation of promotional or merchandising programs for a specific farm commodity. As State departments of agriculture, we should encourage research programs that will assist commodity groups in the marketing of their products. We should also encourage them to obtain the service of the best qualified agency to conduct the research they desire.

Mass distribution of food products is growing in importance each year. Food distributors are becoming fewer but larger and more demanding in their requirements. As a retail store system grows it becomes more and more limited in the type of supply source that can satisfy its needs. Machine accounting and inventory control methods are being placed into service by our major food distributors as rapidly as possible. These mechanized accounting and inventory practices often result in determinations that some products are not profitable for a particular retail organization to handle. A product's velocity of movement shows up in the inventory control report and often the accounting department finds that the profit per linear foot of shelf space is so minute that the product should be discontinued. In order to protect the distribution of a particular commodity produced by the farmers in your State, it is going to become increasingly necessary to provide marketing assistance to that product. Such assistance is required from the time it leaves the farm or central packing shed until it is consumed by a satisfied consumer who desires more of the same.

One of the most effective methods of achieving retail store movement is to employ marketing service fieldmen who have specialized training in setting up in-store displays including point-of-sale material designed to enhance the sale of a particular product. If our farm products are to remain in the fresh produce department in competition with processed products of the same commodity, we are going to have to be extremely ingenious in our promotional and merchandising efforts.

It can truly be said that much progress in marketing has been accomplished over the past few years. The marketing of our abundant production with profitable returns to the farmer-producers is one of our most crucial needs in American agriculture today. The National Association of State Departments of Agriculture, through its Marketing Committee, stands ready to assist the United States Department of Agriculture and the National Association of Marketing Officials to improve the marketing service programs in every way possible.

WHAT THE NATIONAL ASSOCIATION OF MARKETING OFFICIALS CAN DO TO ADVANCE MARKETING

Don E. Wilkinson
Wisconsin Department of Agriculture

Today, many man-hours of creative thinking and many thousands of dollars are being invested in this intangible thing known as "public image." Giant corporations are concerned with the public's image or impression of them. Brand name companies spend millions of dollars to develop the public image for their product. Government agencies, realizing that the taxed dollar is being stretched farther and farther each day, are becoming much more concerned with "public image."

This great area of marketing and all who are involved in agricultural marketing work are not immune from this matter. What is the public's impression when they think of marketing? What is their impression of your marketing program and those who carry it out? Perhaps your agricultural producers have one image of our program — the consuming public has another. If your department is to serve these two extremes as part of its marketing work, perhaps you should understand them and they should have a better understanding of you.

But what does "public image" have to do with the assigned topic? It is my intention to prove that the image or understanding by the public of our State marketing work should be an area of great concern to the National Association of Marketing Officials and its individual members, if they hope to advance their marketing work.

Purpose, Opportunities and Limitations of NAMO

The executive membership of the NAMO consists of the men in State government, usually in State departments of agriculture, who are responsible for the agricultural marketing work. Associate membership is granted to others not only from the States, but from the U. S. Department of Agriculture, as well as various marketing agencies.

The purpose of this association is clearly stated in the constitution: ". . . to develop a broad program in marketing work for agricultural products with the view of improving the marketing, handling, storage, processing, transportation, and distribution of agricultural products."

A positive appraisal of NAMO's opportunities to serve will indicate that through its connection or link with the individual marketing men of the States it can be of real value, perhaps primarily as a means of communication but also in other ways which we will discuss in more detail. We also recognize the opportunity to serve as a liaison agency on marketing matters to the National Association of State Departments of Agriculture.

Being realistic, we must recognize that there are limitations; "a chain is no stronger that its individual links." This certainly is true in an association of this type. The value to the individual States and to the agriculture of those States depends directly on the interest and ability of the Association's members from those States. There are many of our members who continually try to utilize as effectively and efficiently as possible the service and information presented by NAMO. There are others, on the other hand, with only token interest and participation. Regrettably, this is especially true where there are departments where the marketing work has not been consolidated within one division and no specific person is assigned marketing responsibilities.

In discussing limitations, we also must recognize an association without a full-time executive secretary and with limited funds has its problems. All of us active in NAMO have our own full-time marketing jobs. It is, therefore, difficult to provide service and leadership in any way other than through our elected officers and our Association's committees devoting as much time as possible to Association matters. With the limitations of funds, it has been impossible for committee members to gather for specially called meetings. This must usually be done in conjunction with our national convention or an occasion such as this marketing workshop.

The Advancement of Marketing

I believe NAMO can and should dramatize the importance of marketing — and our departments' role in it. On the surface much of our work may appear to be routine or uninteresting to the general public — writing proposals to be submitted for the Federal milk orders, routine inspection of potatoes, or the lengthy series of telephone calls for the collection of market news. But, think of the overall significance of this work. It is part of a bigger story, the results of which are of major importance to many segments of the marketing channel. I contend that NAMO working with State and National agencies can develop information, materials, and ideas for local use and application in dramatizing this overall program of marketing.

The "club-wielding regulatory inspector" should not be the public image of a State department of agriculture. Not if it is doing its total job for agriculture and the general public of its State.

The second area in which NAMO can assist in advancing marketing is to provide understanding of the total area of agricultural marketing and recommend organization plans of the marketing work for State marketing officials and their department heads.

In this area, the National Association of Marketing Officials conducted a study during 1959 entitled, "The Organization of Marketing Activities Within State Departments of Agriculture." This study has been of specific value to several States as they have formed or reorganized their respective markets divisions and even their entire departments of agriculture. At our last annual convention, authorization was again given to carry out a new study in this area, since so many changes have taken place since 1959.

There is no intention of NAMO or any other outside association or agency to dictate to a department of agriculture what the organization of marketing work should be in that specific State. The intention is merely to provide ideas of what the marketing work might consist of, and to present alternative plans for organization.

This second area of service also encompasses the important matter of evaluation of existing services. Many of us have a tendency to falter on this particular point, not necessarily because we are too close to the problem but because we may not be familiar with recommended techniques of evaluation. Perhaps NAMO can be of greater service here. I have in mind such things as proper procedures for statistically analyzing the value and accomplishments of our promotion programs, evaluation of dissemination techniques for market news, and there are many more.

The head of a department of agriculture, his marketing chief and any others who are involved in evaluating the marketing program of that State should never forget that the wholesaler, the retailer, and the consumer must be considered in agricultural marketing work. The department that continues to orient its entire program to the farmer will be in for real difficulties — for our taxpayers today are more critically evaluating Government programs and the services they as individuals receive. In State departments of agriculture, if we are doing the total job, we are providing many services of direct benefit to the consumer and yet these very same consumers think of us as serving the farmer almost exclusively. Here, we can and must exert extra efforts in influencing public opinion.

Leadership in Problem Solving

The third area in which NAMO can be of assistance in advancing marketing work is to provide positive leadership in solving specific marketing problems. I would also broaden this to indicate that leadership should be provided in the development of policy.

Specific leadership that may be of value to many of us in either problem solving or policy development, falls in the area of recommended techniques. All too often we begin to tackle a problem as a total entity and are astounded by its vastness and complexities. If we could disect that problem into its various parts and then begin to organize it as follows we might develop more efficiency:

1. Careful definition of problem.
2. Alternative plans of action.
3. Estimated cost of each plan, including funds and personnel.
4. Anticipated accomplishments under each alternative.
5. Available assistance from other agencies and industry groups.

NAMO can be of greatest value here in assisting us as individuals in following this or more detailed techniques in problem solving. In addition, it can relay, through its normal channel of communications, experiences that other States have had in working on similar problems.

Challenges Can Be Constructive

The fourth and final general method of which NAMO can assist in advancing marketing work is to challenge the thinking and action of us as marketing officials and department heads, as well as challenging the value and accomplishments of our existing marketing programs.

Many of us have a tendency of surrounding ourselves with the protective armor of State statutes, biennial appropriations, public and legislative opinion, and even tradition. We are afraid to do a little free thinking of our own in the area of new and, perhaps, even radical departures in the field of marketing.

We should be challenged and NAMO should be in a position to do this challenging. It should encourage us to think beyond the theoretical limitations. Some of this constructive thinking may not require new money or even new personnel. Some if it may save money for your State. Are you sure you don't have some marketing projects being conducted by your department today that industry could be doing themselves more effectively? If so, why shouldn't the Government get out of it?

On the other hand, perhaps our State marketing programs can provide the framework by which industry may effectively and efficiently operate. This area would include such things as enabling legislation for market orders where commodity groups can do things for themselves which otherwise are very difficult or even impossible — and yet, are for the overall betterment of their group.

Summary

I have attempted to emphasize that despite its limitations, the National Association of Marketing Officials can do four important things for us as marketing officials and department heads:

1. Assist us in developing a "public image" for marketing and for those who work in marketing.
2. Broaden the understanding that we as State officials should have as to what marketing work really should be in our respective departments.
3. Provide leadership in problem solving and policy development.
4. Challenge marketing men and department heads to think.

ARE OUR MARKETING TOOLS ADEQUATE FOR THE JOB AHEAD

John L. Fulmer
Georgia Department of Agriculture

The Georgia Agricultural Commodities Promotion Act was enacted in the 1961 session of the General Assembly. It is modeled after the California legislation which evolved over a period of years.

The Georgia Act permits groups of farmers to vote themselves under any commodity by meeting certain legal requirements of the act. Once the commodity act is voted into effect, the Commodity Commission representing the farmers may issue marketing orders containing any or all of the following provisions:

1. Surplus control.
2. Limitations of total quantity, or any grade, size, or quality which may be marketed or procured.
3. Allotments of quantity, or any grade, size, or quality which each handler may acquire or purchase from producers during a specified period.
4. Allotments of quantity, or of any grade, size, or quality which each handler may process, distribute, or handle within the State during a specified period.
5. Regulation of the period or periods during which any agricultural commodity, or any grade, size, or quality of such commodity may be processed, distributed, or otherwise marketed within the State.

6. Provisions for establishment of surplus, stabilization, or byproduct pools.

7. Grade standards and inspection.

8. Advertising and sales promotion.

9. Uniform trade practices.

10. Production adjustments.

11. Research studies.

12. Educational program.

As of November 1961, four commodities have come under the authority of the Act and marketing orders have been issued on each — eggs, milk, peanuts, and potatoes.

All four marketing orders authorize programs of research, promotion, and education. Only one order ventured further than these three conservative and obviously necessary types of programs. The sweetpotato marketing order also authorized grading standards, marketing dates for green and cured sweetpotatoes, surplus disposal operations, and control of unfair trade practices. Thus, only 6 of the possible 12 tools available under the Georgia Commodities Act are authorized. Only one has been implemented. Grading standards are in effect on sweetpotatoes and appear to have had a very beneficial effect both on volume and prices. In time, broad and comprehensive programs will be worked out in the areas of research, promotion, and education. We believe that these programs can be made effective in the areas in which they are applicable.

We lack necessary experience to assess this Act. From analytical considerations of an economist, I suspect that the provisions in general will be most effective on perishable farm products which are sold in markets where there is a limited supply and where the type of product lends itself to market development from merchandising, advertising, and promotion. Research may be an exception to the need for perishable, locally consumed products. Research findings on national crops, however, will be equally beneficial, by and large, for producers in other States who are not under marketing orders. Looking ahead, the effectiveness of commodity programs at the State level depends upon the commodity and the market conditions. For staple crops with national distribution, it seems that such programs will be much more effective at the national level.

Research is one of the most powerful tools for solving problems. Marketing research as a tool has not been fully exploited in the agricultural industry. Entirely too much attention has been given to costs of marketing farm products, and to marketing margins. These results are interesting, but perhaps archaic and often misleading. Rise in the marketing margin is not wrong if it involves costs of providing extra processing or services which the consumer wants, is willing to pay for, in fact requires, in order to buy the product at all. Agriculture, like industry, is now in an economy which is market oriented. The demand factors in the market are the dominant forces. Research should therefore be heavily concentrated on the market side. The impacts of demand forces and trends should be worked backward through the channels of distribution to the farmer.

I propose that we re-orient our thinking about marketing agricultural products by adopting industrial research and developmental procedures to reflect more fully the present and future consumer and industrial demands in types of byproducts developed in laboratories and also similarly for many commodities produced on farms, particularly with respect to varieties, degree of maturity, packaging, and handling. Both national and local market production should be more fully conscious of basic consumer urges and motivations. I urge that we adapt industrial research and marketing to the agricultural industry.

I urge establishment of a nationwide commodities development and promotional authority, with appropriate State subdivisions to utilize with maximum effectiveness all the techniques of product research and development which have been found to be so effective in industry. This would open new windows for the agricultural problem.

Main objective of such an organization would be to step-up byproduct research for commodities produced by the nation's farmers, with analysis and screening procedures to select those of practical value. From this highly logical basis, sufficient promotional activities on feasible byproducts, where necessary, would be instituted in order to gain acceptance first by manufacturers, and then by consumers.

Advertising and promotional activities of sufficient strength and duration would be engaged in until firm industrial and consumer acceptance for specific commodities or byproducts are obtained. Manufacturing operations initially may be supported in the marketplace.

In the event a satisfactory manufacturer for a product demonstrated to have practical market value is not located, the organization proposed would encourage development of a processing establishment at a feasible location.

The organization contemplated for this new action program should have six objectives, at least. They are:

1. Concentrate on the demand side of the agricultural problem by finding new uses for current agricultural products, either at the industrial or consumer level, or both, through product development, promotion, and orderly and effective marketing procedures.

2. Analyze existing product uses from laboratories, and promote, market test, and otherwise push the sales of current products. As a result of consumer acceptance tests, suggest changes in the laboratory products.

3. Use market research to learn consumer and industrial requirements in the area of agricultural commodities. Coordinate laboratory research to develop products to meet these demands.

4. Project the industrial and consumer demands for agricultural commodities, taking into account shifts in consumer tastes, trends in industrial use, population growth, rise in per capita income, and other factors affecting the character of the future market demand for agricultural commodities.

5. Introduce new consumer byproducts and industrial applications of agricultural commodities by disseminating information on products which by laboratory

and market research tests have met the test of practicality.

6. Expand the per capita demand for existing agricultural commodities and products by quality control, better flow of products to market between seasons, advertising and promotion, and merchandising activities.

The organization contemplated will not be limited solely to commodities under marketing orders. It will be concerned also with any new agricultural commodities or byproducts wherever they may be found which indicate volume sales in the market, and therefore promise both enlarged agricultural output on America's farms, and enlarged industrial employment in the nation's factories.

Not all developmental activities would succeed; because of the inherent nature of the problem, it is expected that the failure rate would be high on market development of such products derived from agricultural commodities. However, the costs of such failures must be written off against the price of progress.

We offer here a new approach: An imitation of industrial research and development for development of new markets for agricultural products. The organization proposed would be ready-made to accept new products emerging from the laboratories, from inventors, or from any source. It is conceived to provide a sequence of integrated analyses on such products to determine market potentials, and obtain market development. Where necessary, it would work with specific persons or groups to develop manufacturing from scratch. Moreover, the organization contemplated not only would be in continuous process of assessing market demands and trends in market demands, both on the part of consumers and industrialists, but it would not stop here because its obligation extends to the producers, who must also be apprised of the impact of trends in demands on production of agricultural products currently and in the future.

Demand is now the dominant force in the high-income American market. The sooner the production and developmental activities in the entire agricultural industry become attuned to this new approach to market development in agriculture, the more impact it can have on the agricultural surplus problem.

ARE OUR MARKETING TOOLS ADEQUATE FOR THE JOB AHEAD

Daniel M. Dalrymple
New York Department of Agriculture and Markets

Standards of quality and identity are the first tools that we have used over the years in any marketing program. Without standards of quality most marketing programs could not exist and whenever standards get out of line or are not used, confusion reigns.

Inspection to maintain standards is our second tool. We think in New York we have done a fine job with a first class inspection program over a long period of time. Here again cooperation with the Federal Government is close — as it is in all States.

In New York we start with our fruits and vegetables in the orchards and fields. We try to keep down the problem of poor grade apples by encouraging, in cooperation with the Extension Service, proper pruning and thinning of orchards. Many growers hire department inspectors as a third disinterested party to check on the work of the pickers. Other growers pay their pickers on an incentive basis in order to get a better job done. Processor grades have improved sharply in the last few years and yield of sauce per pound of raw apples with it.

Again, with the Extension Service, we have encouraged better packages and better methods of getting the apples out of the orchards and fields and into storage and market. During the season, just before picking we have held many grading and quality demonstrations so that growers know what a No. 1 apple or vegetable is and when it is ready for harvesting or picking. During the winter at all meetings of fruit and vegetable growers, we conduct market-run sample grade contests to illustrate grades.

In our shipping point inspection and in other inspections, we have encouraged growers to handle apples more carefully by demonstrating the loss from improper handling. This is an advisory operation and seems to be rapidly developing into a new tool. It gives teeth to the arguments of the College people and the Extension folks. For example, we held a demonstrational meeting early this summer to explain to growers just what excessive visible spray residue was so that such residue could be avoided.

In addition to our shipping point inspection our regulatory inspectors have been teaching growers something about immaturity in apples. Some of the growers have had to learn the hard way — from seizures, condemnations, and fines — that we will not tolerate selling apples that are grossly immature or apples that are incorrectly labeled as to variety and grade.

Our regulatory people are not always the most popular among our inspectors but are one of the most important groups. A good example of how our regulatory functions have been used by the grower and consumer is the story of controlled atmosphere apples.

About 10 years ago, when this storage method began to be important, the growers and our department, in cooperation with the New York Horticultural Society, decided that we were not going to let a method which promised so much in quality control be misused and become unimportant. In cooperation with the College of Agriculture which developed this method, our department set up strict standards of control which have been adopted by all States using this method of storage, from Washington and California to Maine. All the States have followed our pattern closely, both as to regulations and as to enforcement. This means we now have what amounts to a new type of apple resulting from a new storing process which cannot be infringed upon by dilution with uncontrolled apples, even in the marketplace. Helpfully, we were able to develop a series of tests with which we can tell if the apples have been properly stored or not.

Washington State is now controlling the condition and quality of apples that go into controlled-atmosphere storage. With close control of the method as well as the air in the storages, the consumer is now assured of high quality apples the year-round from most of the important producing sections of the country. This will enormously extend the market for apples and the income for apple producers.

With the cooperation of our Food Laboratory and our Division of Food Control we have made certain that new products developed by our processing industry have maintained good standards and are properly labeled. This has meant a wide acceptance of some of our new products, and we have made it difficult for the pirates to capitalize on good products and dilute them. By requiring a minimum quantity of fruit juice in all fruit drinks and by labeling imitation products "imitation" we think we can do a great service to the consumer, to the grower, and to the processor.

After we have developed a good product, and some quality control, there comes another tool — better marketing methods. Here again we cooperate with all factors — from the research people to the consumer. We have been able to coordinate our activities reasonably well in New York State, and have been able to utilize new methods of marketing such as the use of polyethylene bags for apples, new packages for eggs, and so on.

After we have developed better marketing methods we go to better promotion, with all its ramifications. We think we have been helpful in coordinating promotional efforts and more recently in helping certain commodity groups in their promotion operations by State marketing orders. Marketing orders have helped promotion primarily by providing a good system for the collection of funds. So far we have not moved into regulation of quantity as they have in California, but we have made remarkable progress in the last 5 years.

Our largest packer of Concord grapes is controlling quality particularly of raw material through testing for color and sugar content by our inspectors. The National Grape Cooperative (Welch) is also controlling quantity of grapes being delivered by limiting the acreage from which grapes can be harvested for them. They are also suggesting dropping poor bunches of grapes on the ground and pulling out acreage that produces poor quality grapes. Some of those outside the cooperative are in sympathy with this program but are not following it. A marketing order may soon be needed by the rest of the grape industry to keep in line with demand.

What we have all been doing with our tools of marketing has given the American consumer the best foods in the most convenient forms at the lowest relative costs that any consumer has ever paid anywhere.

A good many farmers have been able to cash in on these increases in efficiency where they have been able to move into part of the marketing program as members of cooperatives, bargaining groups or by marketing their own goods. Many more have profited from their own improved efficiencies in production. The consumer has been the beneficiary of this improvement. Other farmers have been forced out of agriculture where they could not adapt new methods. In the face of nationalism, communism and more particularly now the common market program of western Europe, our obligation to this great Nation and to the world is to keep our agriculture efficient and productive.

So far agriculture has led the way. Among all our industries we are in the best shape to meet the competition of world food producers. If farmers are going to continue to operate efficiently in the critical and difficult years ahead, they are going to need a great deal of help from their leaders and from what help Government can give them.

We will be called upon to do many new operations — from assisting in quotas to arbitrating, bargaining, and helping to organize marketing agreements in many phases. If any of these things succeed, they must be based on fundamentally sound facts.

WHAT THE CHALLENGE — EFFICIENT MARKETING — MEANS TO STATE DEPARTMENTS OF AGRICULTURE

L. Y. Ballentine
North Carolina Department of Agricultrue

An efficient marketing system is the bridge between farmers and consumers. Products left on farms are of little value to either. Hence, the farmer wants to be able to move the output of his farm to consumers, at as low cost as possible, with minimum deterioration of quality, and with maximum return to himself. The consumer expects the marketing system to bring to him the variety and quantity of food he wants, at the time he wants it, in the best condition, and at a minimum cost. The job of marketing people in State departments of agriculture is to help achieve these objectives.

Several things can be done by State departments of agriculture to improve marketing. In the first place, we can be of real assistance to growers by helping them determine the variety and quantity of a commodity to grow, and showing them how to grade, package, and sell it. Overproducing or growing the wrong variety will not do the farmer any good. Nor will he be able to find satisfactory markets unless his products are properly graded and packed.

Another service that can be rendered, especially to the operators of small farms, is that of helping them devise ways of bringing together large enough quantities to attract buyers, and of improving their bargaining power with such buyers. These actions are necessary if such growers are to receive maximum returns for their products. Other activities to expand outlets may likewise be helpful.

Farm products must pass through a series of facilities as they move to the consumer. These include assembly markets, livestock auctions, milk plants, grain elevators, many kinds of processing plants, storage warehouses, and many other facilities right on to the retail food store. These facilities should be in the right places and should be properly equipped and operated. Assistance in planning and bringing about the construction of such facilities cannot only provide outlets, but can also help hold down marketing costs and maintain quality.

Much can be done to get labor-saving devices adopted in marketing channels, to get the proper kinds of equipment installed to fit the situation, and to get the best marketing methods applied. State departments of agriculture can help on problems such as these, as well as take the lead in bringing about the adoption of other desirable marketing changes and preventing the adoption of those which are not desirable.

Another step which can accomplish a great deal in improving marketing efficiency is action to minimize deterioration and spoilage. Many States are doing very effective work in this field on all major agricultural commodities — fruits, vegetables, poultry, eggs, dairy products, livestock, cotton, grain, and tobacco.

Finally, State departments of agriculture are in an excellent position to work closely with farmer and industry groups in determining the problems needing solution and in finding answers to them. By bringing about agreement on the problems which should be attacked and bringing together representatives of all groups and agencies that can help find the solution and get it adopted, our agency can make a real contribution toward making our marketing system grow in efficiency and in its ability to serve both farmers and consumers.

WHAT THE CHALLENGE — EFFICIENT MARKETING — MEANS TO STATE DEPARTMENTS OF AGRICULTURE

Doyle Conner
Florida Department of Agriculture

Efficient marketing certainly is a challenge. The days of simple and direct arrangements, such as roadside stands, parcel post and door-to-door peddling, are gone forever. Farming has become more specialized and it is no longer practical for farmers to deal directly with consumers. The modern farmer sells his products to a local buyer then loses track of them. They are often resold many times before reaching the consumer.

In years past, the farmer had very little competition. Today, however, only about one-fifth of the consumer's dollar is spent for food. The rest goes for other items. The farmer even has competition in the supermarkets now. Modern supermarkets today carry 140 produce items, 250 meat items, 225 frozen food items, and 4,000 other items.

Before we can discuss how to increase efficiency in marketing, we must determine what efficient marketing means. It is a systematic, businesslike approach to the activities and services connected with moving farm products from the producer to the consumer.

To have an efficient marketing program in a State, you must first pool all your marketing talent so that you can see just what you have and need in the way of personnel. Prior to this, you must determine what your marketing problems are. These problems differ greatly from State to State. We have a cross section of all of them in Florida because our agriculture is so diversified.

As agricultural products vary from State to State, so do State departments of agriculture have a definite place in the marketing picture. Their biggest challenge is to coordinate marketing activities of all agricultural agencies in the State — such as Extension Service, Experiment Stations, USDA cooperative programs, and State-industry organizations. In our State, this is one of the first things we are attempting.

In evaluating what State departments can do to increase efficiency in marketing, I find it necessary to refer to what we in Florida are doing and what we plan to do since I am more familiar with our setup. This is the first year our department has undertaken the job of doing something about the marketing situation. We underwent a complete reorganization in January of this year, and in setting up the new department, our legislature recognized the need for an expanded marketing program. In the last session legislators appropriated enough money to get the program started. This included salaries for a director of marketing, a market research man, a market services man, and four merchandising and promotion men. They also appropriated money for direct promotion and advertising of agricultural products.

The director heads up our new Division of Marketing, which includes the Market Development Section — where the new people I just mentioned will work — and three other sections which I will mention later.

This new section, the Market Development Section, will deal with economic services and enforce marketing programs such as marketing orders and agreements. It will also render general marketing services to unorganized groups of producers and individuals such as conducting food trade surveys designed to develop information which would improve the merchandising and expand the marketing of Florida products, and assisting groups of producers in organizaing for the purpose of improving their marketing efficiency and strengthening their bargaining capacity. Section personnel keep abreast of new techniques and trends in the marketing process and encourage the use and adoption of those that offer improvement over traditional practices. They will be alert to areas in need of pure research and sponsor its undertaking. They will evaluate accomplished related research studies for possible application to similar problems.

The unit on promotion will concentrate its efforts on increasing the sale and consumption of agricultural products. Primary emphasis will be in assisting retail management by providing promotional ideas, assisting with displays and point-of-sale material, and generally arousing the interest and enthusiasm of the management and men to the opportunities for increasing sales. They will call on those responsible for purchases to acquaint them with the availability of supplies and advise them on advantageous timing. In addition, they can make consumer preference studies for those involved in research.

Before the reorganization, we had a Market News Bureau. This has been expanded and now comes under the division as the Market News Section. This section has just recently initiated a program of comprehensive market news reporting for livestock and poultry. The new program is cooperative with USDA and is designed to give our livestock producers the most up-to-date market information and trends possible. Besides showing latest prices, shipments, receipts, and holdings for different commodities in different locations, we try to interpret market trends for producers. We hope to give them the necessary tools so they can make their own buying and selling decisions.

One of our greatest needs in the field of marketing is to develop a better understanding by our growers and producers of the marketing processes and the rapid changes that are taking place. If they are given the opportunity to gain this understanding, our job of guiding and assisting them will be much easier and more effective.

Our State farmers' markets are providing assembly points in areas of production. These markets are strategically located and have proved highly successful. We intend to direct our efforts toward making these facilities contribute their maximum benefit to the areas in which they are located.

Our License and Bond Section is actively enforcing the requirements of the law. We have raised the limits of our bond requirements for dealers in order to give our producers more adequate protection. This should help in reducing the laxity with which some firms do business, eliminate the fly-by-nights, and result in greater caution and realization of responsibility. We consider this another marketing service even though it protects the producer rather than helps him sell his goods.

At the present time we have two market orders in Florida — one for celery, one for sweet corn. This spring, we backed up the agricultural committee of the legislature in trying to sell the farmers on a general marketing enabling act to cover all commodities produced in the State. A group of growers got together and beat down the effort at a public hearing and the idea was dropped because of the lack of advance information on it.

I believe State departments of agriculture can be of significant help to producers in promoting and administering these enabling acts or market orders. We all know that something has to be done to improve quality and standardization of agricultural products. The homemaker demands it. I think it is going to boil down to enabling legislation or market orders, where the industry controls itself with some help from governmental agencies.

The plan proposed in Florida would not have put all products under controls. It would have opened the legislative door so that each commodity group could vote itself under orders or enabling acts. And, it would have been left up to the individual groups as to how much control they wanted.

As the marketing system becomes more and more complex, government will be called on for more and more services and regulations, we must watch our laws and programs very closely to make sure that they do not stifle competition but rather foster and protect it while promoting efficiency.

WHAT THE CHALLENGE — EFFICIENT MARKETING — MEANS TO STATE DEPARTMENTS OF AGRICULTURE

Don Olson
Washington Department of Agriculture

In use of the term "marketing," we refer to a group of commercial functions which transfer the ownership and assist in the movement of, or exchange of, food and fiber from the farm where it was produced to the ultimate consumer. "Efficient" is defined as producing a desired effect or result with a minimum of effort, expense, or waste.

Thus, we have always had efficiency in marketing, at least to the degree that could be achieved by the forces of competition. Certainly a minimum of expense, whether in capital investment, manpower, or materials, has long been a deciding factor in the success of one business over another. However, what was considered to be efficient in 1941 has become obsolete by 1961. We have witnessed two decades of continuing improvement in marketing efficiency which has not increased the farmer's share of the consumer's dollar. Perhaps, we are in error if we continue to use this as a measure of marketing efficiency. Yet, if our efforts are to be considered successful, they should reflect a better income for farmers.

What, then, is the challenge? It might be any one or all of the following factors:

1. Have production techniques contributed their maximum potential to marketing efficiency?

2. Are marketing agencies, whether privately owned or cooperative, using the best techniques now available to them?

3. Are farmer cooperatives as efficient in marketing as private ownership?

4. Are enough of the benefits from efficient marketing being returned to the producers?

5. To what extent is efficiency in marketing contributing to the disappearance of the family farm?

6. Are we keeping our farmers well informed?

Recognizing these challenges almost requires that we direct our interest and activity in several directions at the same time. I suggest that the following areas offer promise:

1. Insist that production be geared to specific markets.
2. Encourage greater emphasis on mechanization as an alternative to increasing labor costs.
3. Expand bulk handling and shipment.
4. Simplify grades and terminology.
5. Improve crop estimating techniques and market news.
6. Encourage the merger of co-ops to the limit allowed by law.
7. Reappraise agricultural exemptions on freight rates.
8. Reduce trade barriers.
9. Eliminate loss-leader merchandising of perishable commodities.
10. Stimulate research by both public and private institutions.

WHAT THE CHALLENGE — EFFICIENT MARKETING — MEANS TO STATE DEPARTMENTS OF AGRICULTURE

Hollis Shomo
Virginia Department of Agriculture and Immigration

Efficient marketing is not only our greatest challenge, it is agriculture's greatest need.

The farmer certainly needs it. His share of the consumer's dollar has dropped from 49 percent in 1951, to 40 percent in 1957, to 38 percent in 1961. His production and his costs have been going up, his prices and his profits have been going down.

The processor needs it. Consumers are eating more processed foods compared to fresh foods every day, and yet every day processors are going out of business.

The retailer needs it. The profits of big corporate retail groups, after taxes, are about 1 percent of sales. In Virginia, in the past 10 years, we've had just about the same percentage of food stores go out of business as we have had farms go out of business.

The marketing system needs it. Too much of the produce in this country winds up in the garbage dump or the hog lot before it gets to the first buyer.

Our marketing system is not very consistent. We still ship potatoes over 3,000 miles from California into Richmond, while 100 miles away in Princess Anne County we are shipping potatoes to New York. The choice beef we eat in Richmond may still start out as a feeder calf in southwest Virginia, go to Ohio to be fed out, then to Chicago to be slaughtered, and then back into Virginia.

The consumer needs better marketing, too, because the costs of all this are always passed on to her, and that usually means she pays less for her food and more for her marketing service.

What do we mean when we say "efficient marketing?" The first thing is planting the right variety and the right quantity of the right crop at the right time. No amount of marketing efficiency is going to help us if we are peddling green apples when the consumer wants red apples, or if we send three carloads of potatoes when the market is calling for one, or if we come to town with a truckload of pumpkins the week after Halloween.

The first step to efficient marketing is to produce for a market, not just for the market — to produce what we can sell, not try to sell what we feel like producing.

After that, efficient marketing to me means transporting and selling and processing and packaging and retailing and merchandising and promoting the farmer's product with the maximum consumer acceptance,with the minimum cost, and with a reasonable profit.

From there on, we should follow the guidepost that all of us have set out in our marketing work. We have made a lot of progress, and we have just really started.

In Virginia, one of the things we have found pretty fundamental is to assemble all the basic data we can about a commodity or a marketing problem. We have just completed the third volume of the most complete study that has ever been made of our dairy industry. This was a cooperative project with our extension service and experiment station, and included our grade A dairy farms, our grade A plants, and our manufactured milk industry.

For the first time, we can go to this assembled data and perhaps get the right perspective for a dairy marketing problem.

We've done most of our work in the first phase of the marketing progress, the movement of the product from farm to first receiver.

Two years ago we started a series of graded, organized feeder pig sales and sold 12,000 pigs at $3 to $4 above the auction market. Last year, we sold 17,000 at the same premium. This year, we may sell as high as 50,000, with buyers coming from as far as Ohio and New Jersey, and prices are still $3 to $4 above the market.

We helped to launch the 6-county Hanover Vegetable Growers Association, to market truck crops from an area around Richmond. The first year it did a $50,000 business, the second year $151,000, the third year it will top this figure. Throughout its existence, it has been selling truck crops when individual farmers had trouble selling their produce.

Our Accomac-Northampton Sweetpotato Marketing Cooperative has meant more money to growers from processing sweets, and originally launched our well-known nemagold promotion program.

We've been instrumental in starting 11 country point egg grading stations, because we could see the trend toward initial handling of farm products moving into production areas to cut down on transportation costs.

The cost of transporting production supplies to farmers and transporting the farmers' products to market is going to have a tremendous influence in the future on who produces what and on where it is produced and how it is handled.

We have already learned that our poultry competitors in Georgia and Alabama have about a penny a pound cost advantage over us in feed costs from their barge rates, and we are trying to do something to regain our competitive equality.

After transportation comes communications as a big need in marketing. As fast as our marketing system moves today, a log jam of products can form overnight if the word doesn't get through. We've found that we can prevent these log jams in market eggs by setting up a clearinghouse where handlers with eggs to sell or buyers with eggs on order can get together.

Our materials-handling work is less spectacular, but no less important. In fact, we hired a former time-study man from industry to handle this phase of our matched-fund work. In three months time, he showed six of our apple plants how they could save time and money in operative costs. He saved untold dollars in plant efficiency and operation of our largest egg handling establishment.

In the processing line, we are putting a big co-ordinated push on a sweetpotato and white potato flaking plant to give our growers another outlet and a new market.

In packing, we can measure a 10-year program in apples, and the figures are impressive. In 1951, we persuaded one packer to put 750 bushels in a new tray pack that was built like an egg crate to cut down bruising. These packs sold at a 50-cent premium. The next year, instead of 750 bushels, we put 50,000 bushels in the tray pack. Last year, this was our largest selling container, over 1,700,000 tray packs sold.

But with all this time-study work and package design, we have also found that there is still no substitute for the personal contact of personal selling.

During this past year, we have sent market development men (these are salesmen) to half a dozen of our markets or potential markets to study the potential of our products. In one trip to Cleveland last year, one man increased the shipments of Virginia fruits and vegetables from 29 to 88 cars in one year.

These phases of marketing are necessary, but the final sale is made in the retail store. So far as retailing is concerned, we have tried some of everything, from studies of the effects of advertising and quality on sales, to the sales appeal of bag versus bulk displays, to display design and pulling power. Among all the segments of the marketing process, today's food retailers are probably making the most progress, but even they admit that they are often working in the dark, and need the help that we can give.

But the job isn't done when the consumer picks up our package of farm products. It isn't done until she picks it up for the second time. Our whole food merchandising and farm production process is geared to repeat business by the consumer. We know she goes to the food store, on the average, twice a week. What we don't know is whose products she is going to buy when she gets there.

We in the division of markets have worked closely with the department's information and food promotion section on sales promotions for Virginia farm products. We have not tried to promote all of Virginia's farm products. We have tried to lend a professionally-trained hand to any commodity group that wanted to finance its own sales promotion program.

We started out in 1951 with a small apple promotion program. The budget was less than $5,000. Today, the Virginia Apple Commission assesses each grower 4 cents a bushel on packed fruit and 4 cents a hundred on processing apples and spends nearly $200,000 a year on a promotion program throughout the Southeast.

We believe we are on the way with our nemagold sweetpotato promotion. At least, the boys from New Jersey and Louisiana have told us they knew we were in business.

There are many other examples I could cite about what we have done. There have been hundreds of small services we have performed to pave the way for bigger ones.

There have been programs that involved our regulatory forces and our information people, and any number of projects in which our Extension Service has been a full partner.

We have worked hard at all these tasks, because we feel that what we as a division of markets and as a State department of agriculture are really determining is whether agriculture in Virginia as we know it today will survive.

No other segment of our economy can match the efficiency that has been the hallmark of agriculture in this generation, and by the same token no other segment can match the intense competition within agriculture that this efficiency has generated.

The job of helping even the strong to survive in this heat of competition is one which will take the combined efforts of research, extension, education, and marketing techniques, working in harmony because marketing is only an extension of production.

The only purpose of production is to sell the product at a profit, but the production and the sales are one and inseparable.

We have all kinds of production engineers in agriculture, but what we need are some high powered sales managers, and a bigger and better equipped sales force.

But as every successful industrial business knows, this takes money. It takes a budget for selling that is in keeping with the budget for production.

Today in agriculture, despite the fact that surpluses are piling higher and higher, we are still spending dollars to find out how to produce more and only pennies to find out how to sell more.

PROMOTION OF AGRICULTURAL PRODUCTS AND MARKETING PROGRAMS

PLANNING AND CONDUCTING PROMOTIONS

John Matheson
New York Department of Agriculture and Markets

In New York State we have had an opportunity to use a variety of methods in working with agricultural groups to help remedy a wide assortment of marketing ills. A good share of our work in this area has taken place within the past few years — not because New York has had a rash of marketing problems — but because the recent reorganization within the Marketing Division has given us the tools necessary effectively to help organize and carry out work on marketing problems.

Experience has been a wonderful teacher, but it has not uncovered a standard formula for coping with marketing difficulties. Each new project has its unique circumstances and possibilities. By carefully analyzing and reviewing the results of our programs, we have been able to hew out a pliable outline that can be shaped and molded to meet the specific needs of each new project.

In many ways the need for sound organization is more important than carrying out the work on the problem. It is within this area of work, organization, that we are attempting to develop a flexible, but useful program profile.

I can cite several projects as illustrations of various methods used in working on marketing problems. The maple industry is an important agricultural enterprise in our State, ranking second nationally in total production. There are some 2,500 maple producers in the State who last year produced 270,000 gallons of syrup. Marketing is performed mostly by individual producers through roadside stands and small retail outlets. Because mapling is basically a supplemental form of income for our farmers, marketing generally has not been placed in its proper perspective. However, through small retail operations and bulk shipments to processors, each year's production has been moved at a rather stable price.

This year, industry representatives approached the Department to see what could be done to improve retail sales of pure New York maple products.

A major problem was that the industry group requesting our assistance represented a rather small segment of the total industry population. Lacking a statewide maple producers organization, we were confronted with the problem of proposing a program to benefit the entire industry without being able to ascertain the opinions and desires of even a slim majority of our maple producers.

Our program was geared to inform consumers of the availability of maple by working through food editors of newspapers, radio, and television. The industry group requesting our help worked closely with us to provide a gift package assortment of New York maple products and our own promotion specialists prepared an attractive press kit containing useful, timely, and authoritative information about the industry and its products.

In organizing our specific approach to the program, we called market service representatives together to iron out policy and project continuity. The success of any program can be related to careful orientation and thorough understanding of the program and its goals. In our own shop we insist that each representative has a good working knowledge of the industry and firmly believes in the product.

It is difficult to tabulate the success of this type of a program. We do know the industry received many thousands of dollars worth of publicity, and, despite a maple crop larger than any in the past 5 years, it was moved with good demand and at a fair price to producers.

To carry the program one step further, we compiled a brief pictorial report and mailed it to more than 2,000 producers and buyers to show industry some of the results of the promotion. By reporting back to industry we may stimulate interest in some of our producers to do an even better job of marketing and step out on their own in seasons to come.

The Long Island strawberry industry was another group to call upon the Department for help in a promotion program this year. We were able to deal with a well organized industry that had already taken positive steps to help themselves.

Industry wanted to alert metropolitan New York — their prime marketing area — to the arrival of fresh local berries. We had worked with the Long Island potato folks and the strawberry industry was familiar with our promotion organization.

I believe they called us in for three reasons. First, industry wanted our approval and guidance in preparing promotion information. Second, they wanted to capitalize on the respect and officialdom of the Department. Third, they felt our market service representatives could benefit the cause by personally presenting prepared material to metropolitan food editors and broadcasters. Their reasons were sincere and legitimate and, we were pleased to cooperate.

Food editors in New York City thanked industry through our Department for alerting them to the coming crops. They were able to provide their readers with timely and useful information and the strawberry industry reaped the rewards of publicity at the time they needed it. A trademark of a good program — everyone benefited.

The maple and strawberry programs are good illustrations of short-term promotions aimed at improving a single marketing problem. In the one instance the Department had to take almost complete initiative, while with the strawberry folks, we were able to cooperate with a well-organized industry that had taken the responsibility of doing something for themselves.

We have done some excellent work with the Long Island duck industry. A lot of ground has already been covered, and a framework has been built for a sound, long-range program. This program encompasses many of the points of a "crash" project and yet, enough planning was put into the program to establish a firm base for future work.

Because it is important, I want to go into some detail.

Last November, the industry — which represents approximately 65 percent of the Nation's total supply of ducks — appealed to the Department for assistance to help overcome what appeared to be a disastrous marketing problem. Prices for ducklings were below cost; retailer demand was at an all-time low, and the industry held record inventories. With a new production season about to get underway the first of April, the entire industry was sick and demoralized.

Our first step in organizing work on the problem was to document the seriousness of the situation.

First, we found they had extremely weak public relations with trade and distribution channels brought upon themselves by a poor pricing set-up; second, local government officials were unaware of the economic importance of the industry and were, in fact, discouraging growth of the industry on Long Island; and finally, individuals in the industry were trying to do something but lacked organization and a common goal.

After analyzing our findings, we met with industry representatives and offered the assistance of the Department if the industry was willing to cooperate with finances and personnel. To this end, the industry pledged full support and cooperation and we were able to head into the program with vigor and enthusiasm.

We prepared a concise fact sheet on the economic importance of the industry exhibit. We then recommended that industry hire a public relations specialist to help improve local atmosphere. We then recommended the organization of committees and outlined the full scope of the program with detailed functions for each working committee.

As additional steps in organizing forces for the program, we enlisted the aid of interested agencies, and received excellent cooperation from such groups as the Farm Bureau, Extension Service, civic and service organizations, the U.S. Department of Agriculture, other agencies in our own State government, departments of agriculture in neighboring States, radio and television broadcasters' associations, and a host of others.

Coordinating the useful services of as many agencies as possible is an important function of our Division and an essential factor in the success of any program.

Although the full-scale promotion was scheduled for February, we initiated several immediate steps to capture additional sales of ducklings through the holiday period that was practically upon us.

Personalized letters were sent to retailers informing them of the situation, the scope of the promotion program, and requesting their immediate assistance. Duckling recipes were prepared and distributed to food editors throughout the State for use in their holiday food page copy.

Admittedly, we were very fortunate indeed to receive the Christmas-New Year's support that we did. For all practical purposes we had been called too late to set up a promotion for this period, but the steps taken did serve to get the committees rolling.

The Department sent letters to leading food advertising agencies in Metropolitan New York requesting their help by "tieing in" Long Island ducklings with copy and photographs used in promoting their established food accounts. As it turned out, duck was a natural and many agencies were able to give the product a good "free ride."

In cooperation with the State Commerce Department we prepared a series of spot and feature radio-TV announcements. Then, working with the New York State Broadcasters' Association, we were able to distribute the kits to every station in the State. As a follow up, department market service representatives made personal appearance to encourage consumer consumption of ducklings. Seven hundred special "press kits" were also prepared and distributed to food editors of newspapers, magazines, syndicated columns and advertising agencies.

As a follow up to our earlier correspondence with retailers, we mailed information of the program to more than 200 corporate and independent food chains in the Northeast.

Outstanding cooperation and positive results by each of industry's committees blended together into a smooth running and effective project. Industry reported the greatest movement of ducklings in their history and completely removed inventories from storage prior to the new production season. Cold storage holdings of ducklings in New York State were reduced over five and a quarter million pounds during January and February.

Public relations with local communities and trade channels are now better than they have been in a long time and the duck growers have assessed themselves 2-1/4 cents per pound to finance a long-range marketing and promotion program.

The duck program carried short- and long-range implications — and, because industry has shown a strong desire to help themselves in marketing we have continued to work closely with them.

We have encouraged work in the area of new product development as a means of expanding market outlets. Through one of the committees established during an initial organization session, industry has perfected processing techniques on precut duckling. Our Department is cooperating by preparing a promotion kit to be used with the introduction of the product this fall.

We have just completed an extensive survey of sales invoices of the four major Long Island duck distributors to pinpoint all marketing channels through which Long Island ducks are moved. Market service representatives have worked with the distributors to account for better than 95 percent of all the ducks sold off the "Island" during the past year.

When published, this report will serve as the foundation for the construction of a well-planned, long-range marketing program.

In conclusion, may I say the real thrill in any promotion program comes from the fact that you are working with many individuals and groups to accomplish one common purpose — better marketing of an agricultural product. Giving recognition to all individuals and agencies cooperating in carrying out the objective is essential, and is something that must never be overlooked.

PLANNING AND CONDUCTING PROMOTIONS

Patterson Bain
Missouri Department of Agriculture

Agriculture in Missouri is a billion-dollar industry and Missouri is among the top ten in the value of its agricultural production. But what Missouri is spending in promotion of its fruit and vegetable crops must seem like a drop in a bucket when compared to the promotional funds available in New York for apples and in Florida for citrus.

Inasmuch as many of you may also be limited in promotional funds, you may be interested in what apple growers in Missouri have been able to accomplish with only a few thousand dollars for promotion. Missouri is not a "Johnny-come-lately" State in horticulture. The Horticultural Society, founded in 1859, is the oldest agricultural organization in the State and the oldest horticultural society west of the Mississippi.

In the depression years of the 1930's, low prices, the seeming impossibility of controlling codling moth, and the loss of many trees from a series of drought years had put many growers out of business. Those who stayed in business got together to try to do something to make apple growing more profitable. After a couple of years of "passing the hat" to raise promotional funds, apple growers decided to work for an apple merchandising law which would provide a legal tax on a per-bushel basis. Under the auspices of the Horticultural Society, grower meetings were held in every one of the production areas. The proposed law was explained and each grower was asked to sign a petition to the legislature soliciting support for the apple merchandising bill. With such support from growers, passage was not too difficult.

I believe a sound financial set-up is important — a legally established merchandising fee or tax which is paid on a uniform basis by every commercial producer involved. I say this not to detract from the heroic voluntary efforts which have been made at times by growers in support of promotional programs which are of benefit to all producers of the commodity, but for which only a few ante up while the rest are "free riders." Part of the success of Missouri's apple promotion programs has come about because growers pay a legal tax instead of a voluntary contribution.

The Missouri Apple Merchandising Law, enacted in 1939 and amended in 1941, is simple; but it has worked. Under it, on the basis of one cent per bushel, about $10,000 per year is raised. Many of you would consider this an insignificant amount. However, in addition to this $10,000 a year, the apple growers have received something of much more value than money — cooperation and encouragement from the Missouri Department of Agriculture, from the Agricultural Extension Service, and from the trade which distributes Missouri apples in wholesale and retail channels.

The distinctive provisions of the law are two:

1. Apple growers, through the Merchandising Committee of the Horticultural Society, run the show. They develop the promotional programs and they adopt a budget of the amounts to be spent for each project.

2. Administration is lodged in the Commissioner of Agriculture. He is charged with collection of fees, enforcement of grades, which are U.S. grades, and payment

of bills as authorized under the budget adopted by the growers. This arrangement may sound peculiar; however, it does fulfill the objective of getting the most good out of a very limited amount of money. Had it been necessary for the growers to employ a manager to administer the program, there probably would have been very little left for actual promotional efforts. Throughout the years, the cooperation of the administrator, the Commissioner of Agriculture, with the apple growers has always been 100 percent.

Now, under the Apple Merchandising Law, what have Missouri apple growers attempted and what have they accomplished?

At the very beginning, grading and packing meetings were held in each production area. Twenty years ago, Missouri had a considerable number of small growers, and some not so small, who did their own packing. Many of these were experienced growers who thought they knew just how apples should be packed and what the requirements of the various grades were. Many of them were wrong. So the first step in Missouri's promotional efforts was the development of a uniform, standard product. Without such standardization, any expansion of Missouri's apple markets would have been impossible. Today Missouri still has some small growers, but these growers are equipped to put up a pretty good package of apples.

Missouri has continued this educational program throughout the years with only a minimum of legal enforcement on lots which were out of grade or misbranded. In addition, grower-shippers have been encouraged to use Federal-State shipping point inspection. A number of the larger growers now use this service 100 percent, but the difficulties of furnishing such service to smaller growers have not been overcome.

Missouri apple growers are firm believers in the use of one set of apple grades for the entire United States. I realize, of course, that those States which have established their own grades have done so because of what they consider good and sufficient reasons. State grades, however, are a frequent source of confusion — confusion and misunderstanding which would be eliminated to the benefit of the United States apple industry if all States and areas packed according to U.S. grades.

Now to be more specific about the ways in which Missouri growers spend their $10,000 to promote apples: First on the list is support of the apple growers' own national organization, National Apple Institute. Here Missouri growers express their belief in a national program to promote not just Missouri apples but all apples by placing support of NAI not at the bottom but at the top of their budget.

Next, Missouri apple growers are sold on the use of apples to promote apples. At teachers' conventions, Missouri apples are available together with display materials which may be posted on the bulletin board or otherwise used. Missouri apple growers have learned that teachers are keenly interested in apples and apple information to meet three separate needs. First, apples as they are related to health, particularly dental health. "Billy Meets Tommy Tooth," a 39-frame film strip, fills this category for the primary grades. "Gateway to Health," a color-sound 20-minute movie, is geared to intermediate and higher grades. Second, apples as a part of social science studies. Another film strip, "How Apples Grow," has received wide acceptance from teachers in this field. All of these audio-visual aids were produced by and are available from the National Apple Institute. Third, teachers — who are, after all, consumers and homemakers — are interested in recipes and ways to use apples. Such information is supplied to Missouri teachers by an attractive apple recipe book.

Dentists are even more interested than are many teachers in the health values of apples. Accordingly, Missouri apple growers use apples at dental society meetings to emphasize the benefits of apples, "Nature's Toothbrush," in improving the dental health of children. Here is one instance of how far Missouri apple growers have gone along this line: University City, a suburb of St. Louis, has an excellent dental health program. Each year, class by class, every child receives instruction on dental health plus a dental check-up from dentists on the school staff. For the past several years apple growers have seen that each child is presented an apple, a Missouri apple, at the conclusion of the examination.

Up to this point I have said nothing about promotional efforts in what many of you probably consider the principal fields for promotional efforts, the wholesale and retail field. Within the limits of their budget Missouri apple growers have been active in both fields.

In-store display materials, or point-of-purchase materials, are supplied in adequate but not extravagant amounts to all retail outlets who normally use Missouri apples. This policy applies to wholesalers also. Shipments are made direct to chains which purchase direct from Missouri growers. Or they are supplied to brokers or wholesalers, an intermediate source of Missouri apples.

Brokers, wholesalers, retailers and truckers are kept informed of the availability of Missouri apples in several ways. Such information is compiled in a pamphlet which lists each grower's name, address, location, and telephone number, or such information about his sales agency. Information is also given about the size of his crop, principal varieties grown, and the ways he is prepared to pack them.

This information, which is eagerly accepted by apple buyers served by Missouri growers, is distributed by mail or by a personal visit from a representative of the apple growers. As far as possible, every important buyer is contacted in what Missouri growers consider their trade territory. In addition, just preceding the start of harvesting and weekly thereafter, a letter is sent to each firm on the buyer's list. These communications contain up-to-the-minute information about the progress of the apple crop — time of harvest, development of color, size of fruit, and quality, but nothing about price.

I should like to make a single further observation about one means Missouri apple growers have collectively used to break into a market from which until 11 years ago, they were practically excluded. Today the principal territory for Missouri apples is a triangle with St. Paul-Minneapolis at the apex, San Antonio the southwest extremity, and New Orleans the southeastern corner. However, before 1950, in the southern part of this territory Missouri growers could make almost no sales, because Missouri apples were packed in bushel baskets and the trade in that territory demanded a count pack package.

In 1950, 20 sample tray packs were expressed to 20 different southern outlets and three Missouri shippers agreed to furnish tray packs. Forty thousand bushels were tray packed this year, three times as many the next. Today, the tray pack is one of Missouri's three principal packages, the other being the 2,300-cubic inch carton and 10 four-pound poly bags in a master container. Today the southern territory is one of the principal outlets for Missouri apples.

PLANNING AND CONDUCTING PROMOTIONS

Lyle W. Currie
Red River Valley Potato Growers Association

Probably the first thing you would do if you were planning a product promotion program would be write down what the business objectives are for your product, both short and long term, next year, and five years in the future. Then through careful analysis and research, you would design a plan or program which would in agreement be sound, realistic, and attainable.

A typical list of objectives to be considered in developing a marketing program might be:

Produce direct sales
Establish new outlets
Enter new markets or territories
Attract new users
Re-sell lost customers
Increase use of product
Reach "influentials"
Improve relationship with dealers, brokers, buyers, retailers
Inform dealers, brokers, buyers and retailers of planned program
Stress competitive advantages
Offer point-of-purchase promotional material
Stimulate "in-store" advertising cooperation
Keep present dealers, brokers, buyers, and retailers sold on the product.

In your role as director of a chipping potato marketing division, you might be called upon to plan and develop a program which would move more chipping potatoes into chip manufacturing channels. The objective in this particular case is plain and simple — create increased demand for your product.

Since you have a good quality product it is accepted by chip manufacturers, but not in sufficient volume in relation to the supply. Your problem then is to design a sound, realistic, and attainable program within a budget.

You might begin by selecting from the objectives mentioned: Produce direct sales; establish new outlets; enter new markets, or territories; attract new users; re-sell old customers; appeal to competitors' customers; stress competitive advantages and coincidentally keep present buyers sold on the product.

You might then consider evaluating your present markets; the status of your outlets in these markets currently and in the past as revealed by carlot shipments. Have they shown a steady increase — why and how? Have carlots declined — why? Which markets are predominant? Which show "growing potential?" Which have some or no potential because of geographical disadvantages?

You may explore the advantages of your product, the chipping varieties, their present status in relation to their importance to chip manufacturers, as indicated by present and past movement. Research may provide you with facts and statistics regarding the chip value, the dry matter, the specific gravity and other characteristics of your chipping potato varieties which are pertinent to the manufacturer. You may have an interesting story on conditioning, storage, and handling operations in your area. These and many other advantages could be of great interest to the chip potato buyer, plant manager, and management. This information in part is no doubt known to a number of chip makers but not in total by all. Thus you may have a story which is factual and conclusively provides you with information for the market you hope to improve.

While the chip manufacturing industry is large, the number of firms making chips is relatively small. Therefore, your campaign can be "pin-pointed" to the users in your logical and desired markets.

With a story that can create new and added interest in your product you will then determine "a means" by which this story will reach "influentials" — brokers and buyers. And since the industry is compact, so will be the means of allowing logical exposure. Possibly you will consider:

1. Direct mail — brochures, personal letters, individual leaflets, periodic mailings, and others.

2. Chipping trade magazines.

3. Trade newspapers.

4. Marketing representatives.

5. Exhibits — trade conventions.

There are many ways of expanding any one or all of these media to do an effective job for you. This, of course, will depend on your market status, your budget, and your ability to reach and maintain a level of exploitation which will impress and appeal to the segments and specific areas important for success of your program. Whichever means you use, one, two, all, or others, you will want your story to be complete and conclusive, factual and substantiated, impressive and appealing. Chip manufaturers are prudent businessmen, keenly aware of today's competitive market, alert to the advantages you can offer that can be profitable to an operation. The ability to buy right and the ability to sell right present challenging psychology — know them well.

POSSIBILITIES OF A REGIONALIZED PROMOTION AND SALES PROGRAM

Carroll Dunham
Northeast Poultry Producers Council

A promotion and sales program should promote consumption in a given area of products produced in that area.

One of the aims of a promotion and sales program is to give the consumer a better product. Another benefit is to give the producers a better market and price. A third aim or benefit of a regionalized promotion program is growth and prosperity for a segment of agriculture in the area.

There are four tools in implementing a promotion campaign: Education, advertising, merchandising, quality control.

Then, there are the problems. The first is money. The second is sales resistance by retailers. Another is apathy in the industry itself. Usually it is a problem to get cooperation from producers.

Identification of the product is a fifth problem. All participants in the program must understand its purpose. Incentives — why should they make the effort. Policing of the program, particularly in connection with quality.

Ethics is a problem — cheating, out-of-State or area products, quality, price, etc. The scope of the program — is it too narrow and how does it affect supply? The follow-through, or "leg-work," with retailers and consumers can become quite a problem. How are you going to attain uniformity of supply? How are you going to attain uniformity of quality? Then, last but not least, you have the problem of selectivity.

The Northeastern Poultry Producers Council backed a project called Custom Farms, Inc. It was formed because of the almost complete absence — in the Northeastern section of the United States, as well as nationally — of the application of modern-day merchandising and marketing methods to the promotion and sale of eggs, poultry, and poultry products.

It appeared that the operations of existing producers were too small, in their separate capacities, to meet the costs of a "broad-scale" advertising program necessary to establish a regional or national product image. Accordingly, Custom Farms, Inc., was formed to fill this void. To insure uniform quality products, Custom Farms, Inc., also maintained and operated an inspection program.

The corporate income mainly accrues from royalties paid by franchiseholders based on the amount of company-trademarked packaging material — cartons and cases for eggs; and bags, trays, and other wrapping materials for turkeys, chickens, and other poultry and poultry products — ordered by franchise holders through the company from packaging suppliers.

The company has worked out an arrangement with packaging suppliers whereby franchise holders will be allowed to draw on the company's general standing order for packaging material bearing the company's trademark, "Daisy-Crest." This material, with invoice attached, will be shipped directly to the franchise holder who, in turn, will make payment directly to the packaging supplier.

A copy of the invoice sent to the franchise holder will be transmitted by the packaging supplier directly to Custom Farms, Inc. On the basis of the invoice copy, the company will compute the appropriate royalty payment due, based on a schedule uniformly to be applied to all franchise holders. Thereafter, the company will submit a proper billing; if payment is not made within a reasonable time, under the terms of the franchise agreement, the franchise may be revoked.

To determine the impact of Custom Farms' proposed advertising program, a comprehensive "pilot" marketing test will be conducted over a period of several months using a new trademark adopted by the company. This test will initially involve eggs and chickens, and if successful will then be spread out to include turkeys and other poultry products. The test will demonstrate the effectiveness of Custom Farms' program and will facilitate the correction of any deficiencies while it is still in the initial stage. The estimated cost of the test program was calculated by a leading advertising agency retained by Custom Farms, Inc., to administer the program.

Once the test program is underway and shows what can be done, Custom Farms will begin to accept applications for franchises, in the Northeastern section of the United States. These initial franchises will be for the marketing of eggs under the Daisy-Crest trademark and program. Later, similar franchises will be extended for the marketing of poultry and poultry products.

Custom Farms income will be used to launch comprehensive advertising programs in the marketing areas of new franchise holders. These areawide programs will be promoted on a maximum effort basis and will embrace the mass media advertising of radio, television, and newspapers, as well as point-of-sale and other forms of advertising, including coupon distribution, free product samples, and store promotion.

Custom Farms income will also be used to establish and maintain a proper inspection program. From time to time, the company will check and inspect facilities of its franchised processors. And, in accordance, with the terms of its franchise agreement will assist processors in maintaining control over the quality of eggs and poultry, and poultry products they obtain from supplying producers.

Custom Farms believes the American family wants the finest eggs available and wants to be sure of getting them the year around. So, we have selected farms from the best local egg producers and put them under the most rigid quality standards and inspection. As farmers, we have chosen to mark our eggs as other products are marked — with a brand name.

EFFECTIVE WAYS OF PRESENTING IDEAS

Calvin Cox
City Editor
Atlanta Constitution

I've read some things about farming and marketing, done some thinking, and have eaten some farm products, all this in preparation for this talk today. One probable conclusion is that the farmer is America's new unknown man.

This comes about partially, if not wholly, because of efficiency, by processors, packagers, and market men. The city dweller walks into the store, the supermarket or the corner grocery, and he or she is confronted by food in dazzling and multitudious forms. It is dehydrated, frozen, canned, cooked, and half-cooked. It is wrapped in aluminum, in polyethylene, in plastics, and, occasionally in plain paper. It is canned in tin, plastics, glass; it squirts out of squeeze bottles, and comes jumping out of gas pressure cans. Even the fresh produce is cloistered in shining sheaths of a miracle wrap.

All this is in the interest of appeal, convenience, salesmanship, better quality, and it is what the people who eat want.

But it has just about obscured the image of the farmer insofar as the average city dweller is concerned.

Lack of understanding is what we're dealing with when the city dweller with no recent rural antecedents thinks of the farm. If he reads the newspaper, the city dweller often sees a problem of statistics: Farm income is up so much, or down; the cost of production is rising; and what is this parity business?

I know that I am supposed to be speaking about marketing and how to present ideas effectively, but, marketing and effective ideas, come under the general agriculture picture, and that's why I've spoken of the big scene.

I don't think it is a bad idea at all for the food-eating and clothes-wearing public to know more about farmers and farming.

While doing the hoe work for this speech, I had the opportunity to read two very interesting publications of the U.S. Department of Agriculture; one, "The Food We Eat," and the other, "Background on Our Nation's Agriculture." These small pamphlets told me a lot, and they could tell thousands, or millions, of other city dwellers. Would it be possible to put them in the country's food stores? Charge the minimum price, if necessary. Or maybe nothing. It could be tried out in a small test area. Perhaps such an action would be regarded as too heavy-handed an approach by the Government, but I'm throwing out the idea because the publications so impressed me.

Farmers' markets occupy a special place in the marketing scheme. They have the country flavor, and city folks can go there and feel practically next to the soil. I know that the huge market here in Atlanta has been widely used, and we on the newspapers have given it much publicity. Nevertheless, I occasionally have the feeling that, newspaper publicity and all, such markets could do even better. Would it be heresy to suggest that they run a small display ad in newspapers when they have particularly large quantities or bargains. I am not saying this to garner advertising revenues, but merely to get the market effectively before the public on special occasions.

We in the newspaper business constantly are being given stories, or handouts as they are sometimes known in the trade. Some of these we don't use. Basically, the makeup and editing of a newspaper is competitive, within its own pages. So much space is allocated to general news, to women's news, to sports, to television, to radio, to business news, and to editorials. The competition is fierce between international, national, city, State news. And now we've inherited outer space, too.

I might mention that undoubtedly one of the greatest marketing ideas of all time is the queen. The newspapers of the country have done their part in publicizing these lovelies and the commodities they represent. Basically, however, effective presentation of ideas is a bit more involved.

First, there must be a story to tell, something that will be of interest to our readers, at least to their pocketbooks.

Second, this news must be timely. Something which happens on Thursday or is analyzed into meaning on Thursday is pretty old news by Sunday. Therefore, I urge speed in bringing the marketing news to the papers of our Nation.

If there is a news angle which comes up suddenly with no time to mail out a release, and if it is pertinent and timely and meaningful, give us the release over the telephone, or send it around by messenger, or ask us to come after it.

When sending in a news release, there is no need to give the dailies a completely polished story. (This may be helpful where time-pressed and personnel-short weeklies are concerned, however.) Merely give us the news, and put on the release a phone number and a name in case there is any question. Be simple and brief.

If the paper is a large metropolitan one, there are certain people you should know. Some news is logically in the realm of the woman's department food editor, or fashion editor. The business editor and the State news editor each have their specialized interests. And if there is something of general interest you don't know quite what to do with, send it to the city editor.

And here's another thing: Sunday papers are becoming larger and larger. We need good features. If you have a good feature story coming up, drop the city editor a note. Tell him what the situation is, the picture possibilities, and inquire if he would be interested in doing a Sunday feature. More and more papers are running color pictures. Point out the possibilities for such art.

Principally, I am interested in news, something which touches other people. Your guardianship at the Nation's dining tables gives you a powerful position to provide such news.

Give it to us, on time, with its significance apparent.

One thing I think would be useful to most city editors is the provision of an up-to-the-minute index of authorities we can go to for answers to questions. Much agricultural news, just as much other news, comes out of Washington. Some new program is announced. Atlanta, or Little Rock, or somebody's hometown, is mentioned as a part of the administering of this program. We on the city desk immediately are interested in getting the local angle out of this national story. What will it mean to Atlanta, to the producers, the processors, the market, the consumer?

I constantly tell my reporters to give me information for our card index — names of officials, and their office and home phones. Sometimes news breaks after regular office hours. We want to know where to go to find out what it means.

Frequently we will assign feature stories to our reporters which require them to find out when and where will be the best time to get the information or "color" needed. We frequently call on Jack Gilchrist of the Georgia Department of Agriculture for such information.

Basically, our job is putting what you know into meaningful, understandable reading material for our subscribers. What does the story mean, how does it affect the reader?

People working in agriculture have a tremendous story to tell. We will help you tell it.

UTILIZATION RESEARCH CREATES NEW AGRICULTURAL PRODUCTS

J. E. Simpson
Agricultural Research Service
U.S. Department of Agriculture

The Department's Utilization Research and Development program seeks, through systematic chemical and other scientific research, to create new and improved uses for agricultural commodities. By this means, utilization research strives to maintain traditional outlets and to develop new products and processes utilizing products of American farms, particularly those in surplus. There is increasing emphasis on developing large-volume industrial uses for agricultural materials. These new and improved products — extending across the entire horizon of food, feed, and industrial uses — are developed to meet specific needs of domestic markets and of foreign consumers. Successful utilization research enhances the use-value and competitive position of American farm products, thus benefiting the farmer, aiding industry, and providing consumers with better products.

Agricultural Research Service's utilization research is conducted in 4 regional laboratories and 10 related field laboratories in close association with other Department research. Cooperative work — some under contract — is undertaken with State Experiment Stations, colleges and universities, and various industrial organizations. Ideas are exchanged with all segments of agricultural interests — producers, manufacturers, storage and distribution groups, and ultimate consumers. A foreign program of utilization research, largely supported by funds generated under the P. L. 480 program, is well established in 11 countries of Europe, Asia, and South America to supplement the domestic work.

Present Utilization Research & Development Program

Cereal grains and forages.—Primary emphasis is on wheat and corn; substantial research also is conducted on other small grains such as rice, barley, sorghum, and oats, and on alfalfa and other forages.

New industrial uses through chemical modifications of the different major components of cereals, particularly dialdehyde starches for improved wet-strength paper and tanning of leather, high-amylose starch derivatives for films and paper coatings, and chemically modified wheat flours for paper sizings.

Fermentative conversion of starch to new polysaccharides and similar polymers that have good promise as thickeners and dispersants for large-volume industrial uses; fermentative methods for producing nutritive feed and food supplements such as beta carotene; and fermentative processes for making toxicants, repellants, and attractants for control of insects.

Exploratory investigations to develop lightweight insulating and structural boards from wheat products.

Basic studies and development of processes for increasing the feeding value and efficiency of grains and forages.

New air-classification methods for fractionating cereal grains as a basis for "tailor-made" food, feed, and industrial products.

New processes to produce cereal foods that emphasize convenience-in-use, better flavor, and greater stability.

Oilseeds. —Major consideration given to soybean, cottonseed, and linseed oils, meals, and related products; investigations also include castor, tung, and selected oilseeds resulting from the new crops screening program. Research stresses new and broadened industrial uses, and seeks to improve feed and food uses.

New chemical products derived from vegetable oils for new industrial uses — polyvinyl ether films as protective coatings; linseed oil emulsion paints; acids, aldehydes and amides of industrial importance from soybean, linseed and cottonseed oils; urethane foams from castor oil; fire retardant coatings and tung oil.

Improved methods for extraction of oilseeds to achieve broadened industrial, food, and feed uses.

Investigations to remove any toxic and allergenic constituents of castorseed and cottonseed to permit wider usage of these oilseeds in foods, feeds, and industrial products.

Fundamental studies on composition and properties of vegetable oils, as required for developing industrial products of economic utility and food products of higher quality, including oxidative modifications, color and flavor changes, fermentative transformations, selective hydrogenation, and polymerization reactions.

Cotton and wool. —Investigations include chemical, physical and mechanical processing research and supporting fundamental studies of fiber properties and their modifications.

Chemical modification of cotton to give desired properties and uses — wash-wear garments; fabrics having flame, heat, tear, soil, rot and weather resistance; industrial products.

Processes and equipment for mechanical processing of cotton for improved opening, cleaning, carding, spinning, and fabric construction.

Chemical modification of wool to impart dimensional stability, permanent creasing, and other characteristics necessary for minimum-care garments; to improve resistance to acids and alkalies; to minimize carbonizing, heat and light damage.

Studies of the mechanical behavior of wool fibers, yarns, and fabrics as a basis for improved performance and new uses for wool.

Fundamental studies of chemical and physical properties of cotton and wool fibers necessary to the development of new products and new processes.

New and special crops. —Investigations directed to develop compositional data on crops from worldwide sources in an effort to find alternate crops to fill needs not now met by domestic sources; and to develop new and more economic uses for domestic special crops.

Screening of large numbers of plant materials, from both domestic and foreign sources, (a) for alternate crops, with special emphasis on sources of new types of oils for industrial uses that are not competitive with domestic vegetable oils and animal fats; (b) for new protein sources; and (c) for fiber plants suitable for pulp production.

Improved techniques for the processing of sugarcane, sugarbeet, and maple sap, and developing new uses for honey.

Development of new industrial chemicals from naval stores.

Compositional studies of spices and spice oils.

Research on the chemical composition of tobacco and tobacco smoke to assist industry achieve desired quality in tobacco.

Poultry, dairy and animal products. —Research directed to discover new industrial outlets for animal fats and hides, and to develop new food products — of high quality, convenience, and consumer appeal — from milk, poultry, eggs, and the more economical cuts of meat.

Research on milk products to develop processes for improved flavor, for gelation control, for removal of any radioactive contaminants, for producing a stable, full-flavored, foam-dried whole milk powder, and for new uses for whey.

New ways to utilize animal fats in lubricants, in detergents, and in plastics and other polymeric products.

New tanning and other processes to make leather more useful, especially in the garment field.

Ways to retain and improve flavor, increase stability, and impart tenderness to meat and poultry products.

Development of egg-yolk-containing and egg-white-containing products with acceptable dispersability, functionality, and flavor stability.

Fruits, nuts, and vegetables. —Research aimed to develop fruit, nut and vegetable products that are attractive, economical, nutritive and meet the increasing demand for convenience-in-use, and to develop processes and equipment for manufacture of these products.

New processes for concentrating, drying, freezing, dehydrofreezing, and dehydrocanning of fruits and vegetables.

Time-temperature-tolerance studies of frozen fruit and vegetable products as a basis for improvement of processes and products.

New processes for stabilizing shelled nuts against development of rancidity, darkening, and other deleterious changes.

Compositional and enzyme studies as requisites to development of new and improved processed fruit, nut, and vegetable products having greater color stability, better flavor, and enhanced textural properties.

MEASURING RESULTS OF PROMOTIONAL PROGRAMS

W. E. Black
Florida Citrus Commission

So far the results of some kinds of promotional programs have not been fully and accurately measured. In spite of this, American business will spend over $11 billion this year to advertise products and services (over 1/2 billion on food). The Florida Citrus Commission alone will spend about $6 million this year to promote Florida citrus. In the 26 years of the Florida Citrus Commission it never evaluated the results of its advertising programs. Yet growers support the organization. Why? Because they believe advertising pays.

Measuring results of promotion is not easy. We must first determine what we are going to measure. The most obvious thing to measure is the impact of the promotion on sales — did sales go up? Of course, without plus sales the program is a flop. However, evaluation to marketing directors is becoming a much broader matter than a simple "Did sales go up?"

You can ask these questions, in addition to sales results, about advertising:

1. Was it noted? (Storch rating)

2. Did it attract attention?

3. Was it retained?

4. Did it prompt purchases from old users? New users?

5. What type families increased purchases? Where?

6. Did it increase frequency of purchase?

7. Did it increase size of purchase?

8. Did it create profit?

9. If so, for how long?

So, I say again, measurement is not simple.

We might want also to ask "was the right promotional technique used?" The seller has alternatives as to how to promote his product. Evaluation starts at the point where the profitability of a particular marketing technique is weighted against all other alternative techniques. Evaluation of marketing alternatives is sometimes necessary prior to undertaking full-scale promotions.

The question as to "who was affected" by the promotion is exceedingly important in the instance of grapefruit and more so than the answer to the question "did sales go up?" Grapefruit users are older — one and two member retired families. We don't know if those older grapefruit users consumed grapefruit when they were younger or began using the product after they reached old age. In any event, the outlook for demand growth is dim. The most important result we could achieve in our promotions would be to shift younger families, with children, to grapefruit.

Promotion results then consist of two things: (1) Did it contribute to the planned overall program of marketing, and (2) did it do this convincingly.

I shall divide my subject into three categories:

1. Merchandising

2. Advertising

3. The promotional mix

With regard to merchandising, the Florida Citrus Commission has completed (1) a trade survey and evaluation of its merchandising program, (2) a study of its prize and premium program, and (3) a study of its in-store demonstration program.

The trade survey was especially significant because we obtained from the trade a playback or evaluation of our merchandising program. This approach tells us where our strength and weakness lie. We learned that they considered our merchandising efforts to be both helpful and expected.

The trade expects more assistance, not less. In fact, the trade expects the supplier to assume part of the responsibility for moving our product from the shelf to the shopper's cart. They expect the merchandising to be modern and in tune with current trade needs and customer desires. They expect personalized service. They want to be different from the store across the street, and expect the supplier-merchandiser to help create a unique store image. Merchandising is the kind of service you cannot render by the numbers (army style). Fortunately, the Commission's 56-man merchandising field force possess the ingenuity and the workmanship that satisfies most of the requirements of the trade. The trade prefers to select point-of-sale material rather than be furnished a standard kit. We learned many other things, but this study prompted the Commission to make several important decisions. Not only was the size of the field force expanded, but improvements were also made in administration. Significant steps are also being taken to strengthen the coordination between advertising and merchandising.

Periodical trade surveys are necessary to learn if you are on or off the beam with the trade. This study should be done by the producer groups — not State agencies.

Prize and premium programs have been a part of our promotional offerings for 3 years. Although the incidents of trade contests were neither numerous nor the resulting records sufficiently accurate, they suggest that considerable trade cooperation was achieved at a per store, per deal cost, averaging from $1.50 to $2. This study led to more detailed record requirements and other improvements.

The purpose of our in-store demonstration study was to measure the benefits generated and costs per unit of plus sales for each product. The study has been completed but not yet reviewed by the staff.

Only one attempt has been made to measure the effects of advertising, and this was financed jointly by the Commission and the U.S. Department of Agriculture with the work done by them.

In the summer of 1959, our frozen orange juice concentrators found themselves with heavy inventories. The customary way to meet this problem is to cut prices to a point where the increased purchases would reduce carryovers of manageable levels. However, the concentrators decided to maintain prices, but take part of the money that a price reduction would have cost them and put it in a cooperative pool for promoting — generally advertising and couponing. This was supplemented with increased expenditures by some brand suppliers and the trade.

During the 3 months of the promotion and the 7 months following, sales volume was substantially higher than was to be expected at the existing price per can. In netting out, it was found that the cost of this campaign was less than the cost entailed in reducing prices to a point which would have moved an equivalent amount of merchandise. Bear in mind this was a special promotion. We have made no effort to measure the results of our regular consumer and medical advertising.

Measuring the results of advertising is difficult because it cuts across several disciplines. You might disagree with this because in advertising we start with money (investment) and end up with money (profit — more or less). The function of advertising is to communicate ideas and information which will affect the state of mind. So, before advertising affects sales or profits, peoples' heads must be affected. The relationship of people to product must be established to create a disposition to purchase for advertising to be valuable.

Advertising effectiveness research is meaningless unless it starts at the core of the marketing problem which confronts the advertiser. Advertising may be called effective only when it accomplishes the designed objective, at the lowest practical cost, subject to the one restraint that the economic value of the effects must be greater than the cost of obtaining those effects.

A word on "promotional mix." Measuring the results of promotional mix is important because various combinations of promotional efforts will yield different results. If merchandising dollars are increased, advertising dollars are likely to be reduced, and vice versa. What is the optimum combination of these two efforts for the product promoted? I realize that the ratio of merchandising to advertising will vary according to the marketing objectives to be achieved. Generally, if you need to sell your product to the consumer — advertise; if you need to remind consumers about your product — merchandise. Today, the Florida Citrus Commission spends roughly $2.50 on advertising for each dollar on merchandising. I can't tell you if this ratio provides maximum benefits.

MEASURING RESULTS OF PROMOTIONAL PROGRAMS

William S. Hoofnagle
Economic Research Service
U.S. Department of Agriculture

For many years advertising and promotion have been basic tools for aiding large-scale production and distribution in our competitive economy. Indications are that these tools have become even more important in recent years. This is attested to by the phenomenal growth in expenditures for advertising and promotion. Last year,

$11.9 billion was spent for promotion, a 6-percent increase over the previous year, and more than double the amount of 10 years earlier.

The sharp rise in expenditures may be attributed primarily to two interrelated forces. First, increased emphasis by both industrial and consumer firms on product development and product innovation has resulted in an ever-increasing flow of new products on the market. With more products vying for the consumer dollar, competition has quickened, giving rise to increased advertising and promotional activities. Secondly, there has been a substantial growth in discretionary spending power since World War II.

In spite of extensive utilization of advertising and promotion by firms, many unresolved problems negate its most effective use. Most decisions relating to the many questions surrounding its application must be made purely on an arbitrary basis, because of the dearth of reliable research findings to guide management in making its decisions. Thus, real problems exist in terms of answering such questions as: Should we advertise? If so, how much should be allocated to advertising expenditures? To what segment of the market should the promotion be directed? What form should the promotion take? And, did the promotional campaign, after being executed, register the intended impact on demand for the product? These are but a few of the many problems with which management must wrestle in the promotional arena. And to many of these questions, the firm has only its individual judgment to rely upon in arriving at decisions.

It is clear that considerable analytical effort needs to be directed at the entire advertising and promotional complex to provide a sounder basis for evaluation of the many questions that arise. The long-range objective of such analytical pursuits should be the development of a body of theory and principles from which management can draw in solving its everyday advertising and promotional problems.

Both theoretical formulations and field investigations are needed to make a maximum contribution to evaluating promotional problems. In combination, these two techniques provide a powerful analytical approach to developing systematically the knowledge and understanding that are needed to evaluate adequately the promotional problems confronting producer groups in our modern day society.

The question, "Should we promote?" is perhaps the most basic and important one.

The response of a product to promotion might be related to characteristics of consumer demand for the commodity. If the price of a commodity has comparatively little effect on quantity purchased, consumers apparently buy rather fixed amounts and do not vary their purchases. The implications under these circumstances might be that advertising and promotion offer little potential for stimulating sales of commodities having a relatively low price-quantity relationship.

Market research should be aimed at providing an inventory of case studies indicating the relationship between promotional effectiveness and demand elasticities for a variety of products. A basis will thereby be provided for formulating generalizations for use in forecasting the responsiveness of a product to promotion.

Studies of the relationship between the characteristics of consumer demand for a commodity and its promotability should not be restricted to demand elasticities but should also include a more intensive analysis of the consumer preference structure. Investigations should be undertaken to ascertain the origin, stability, and real meaning of consumer preferences. If research studies could link consumer preferences to institutional, social, and temporary influences, they could be separated into permanent and transitory categories. Those preferences based upon transitory influences probably would be susceptible to change by advertising and promotion than those falling within the permanent category. The latter would represent those preferences which remained rather fixed. The results of these studies would provide guidelines for evaluating the feasibility of expanding demand for a product by promotion.

Another evaluation which must be made is, what sales appeal or combination of appeals will be most effective in triggering purchase response among consumers. Market research can play a role by applying the acid test by measuring the impact of the appeal on sales. This can be accomplished through small-scale market tests. The appeals being considered can be employed in a relatively few markets under conditions approximating those in which the campaign will be executed. Objective measurements of the effect of these appeals on a small scale can contribute substantially to the selection of the theme which will have the greatest impact on demand.

Moreover, such an approach can circumvent the loss of many dollars which might otherwise be misdirected on appeals which have no effect on consumer buying motives.

Another problem of universal concern to promotional groups is that of finding out what segment of the market advertising and promotion should be directed toward to be most effective. Here, market research has played an important role. Through the use of continuous consumer panel data and one-time consumer surveys, commodity groups are provided with market profiles of the people who buy and do not buy their products. On the basis of these reports, advertising programs can be directed at specific segments of the market.

While knowing where consumption is high and low is a great aid in defining market targets, it does not completely solve the problem of where to direct the advertising effort. The question might well be asked, "Will promotion be more effective among consumers where consumption is low or relatively high?"

To date, we have conducted two studies which provide evidence on this question. In a study on promotion of cottage cheese in the northeastern and southeastern areas, it was found that volume of sales increased more in the northeastern area, where consumption per capita was five times greater, than in the southeastern area. Similarly, in a study on the promotion of lamb in the Northeast and Midwest, volume of sales increased more in the Northeast where consumption was already high.

These two studies are meager evidence upon which to base generalizations. However, several interesting hypothesis may be formulated for further investigation. It might be hypothesized that where the interest is in registering a short-run impact on the market, it is more effective to direct promotion to that segment of the market where consumption is high. This is the segment of the market where the product has already gained consumer acceptance and where there are no institutional or social barriers to overcome. The short-run intensive approach appears to be particularly useful in moving unusually heavy seasonal surpluses or temporarily heavy supplies.

A correlative hypothesis which is suggested is that in expanding markets in low consumption areas, a longer range point-of-view is more appropriate for the promotional program. The campaign should be aimed at cultivating the market over a long period of time, rather than registering an immediate impact on the market. A longer period is needed to break down social customs and other influences which might account for low consumption. This approach would be particularly useful where the potential increase in consumption is great and the aim is to develop a permanent increase in demand.

Most of the discussion until now has been focused on decisions which must be made before the advertising program is launched. Alert advertisers attempt to maintain scrutiny over the campaign once it is launched to determine how well it is achieving the purpose for which it was created.

Careful and objective examination may reveal areas where program improvements may be made; it may call for a redirection of the promotional effort, or may even raise the question of continuation. Factual examination of promotional results by whatever means possible is not only a sound business practice, but an obligation to those individuals and groups providing the financial support.

When the advertising program has short-run objectives, its impact on demand can be measured more readily than when it has long-run objectives. Most of our studies have been directed at answering questions of immediate or short-run nature.

Experience gained in evaluating the short-run effects of promotional programs on demand has led us to the conclusion that there is not one approach that is most suitable for every research problem on evaluating advertising and promotional effectiveness.

Promotional campaigns have been evaluated using simple subdivided time series data, that is, measuring sales before, during, and after completion of the promotional effort. We feel this approach leaves much to be desired because of the instability of market forces, such as prices, supply, action of competitors, etc. Another technique often employed, but again subject to market instability, is that of using test and control markets.

As the economic and marketing conditions associated with a product become more volatile and complex, more sophisticated analytical approaches are demanded. This may involve controlled rotational designs employing the use of variance and covariance analysis. By this approach the short-term sales effects of promotion can be measured in relation to the promotional investment. We are currently utilizing this approach in studies with the Oregon-Washington-California Pear Bureau and the National Broiler Council. Another approach whereby the long-term effects of promotion can be ascertained is through consumer panel data. The important point, however, is that the approach used should be the one most adaptable for funds available and the particular problem at hand.

The evaluation of commodity promotional programs leads into many areas of investigation. In some of these areas, marketing research has and can make worthwhile contributions. In other of these areas, however, market research has not yet ventured. Nevertheless, the need for such exploratory work is clear.

DAIRY PRODUCTS

TRENDS IN MARKETING COSTS AND MARGINS FOR DAIRY PRODUCTS

D. D. MacPherson
Economic Research Service
U.S. Department of Agriculture

The big story for marketing costs and margins for dairy products is that they have been quite stable since the adjustment following the Korean War. This is not necessarily so for all dairy products, but is so for the major products of fluid milk, butter, cheese, and ice cream.

It is somewhat difficult to make a sharp distinction in definition for marketing costs and marketing margins. In a broader economic sense marketing margins are costs. To the consumer the price he pays is the cost. Therefore, I will use the term "farm-retail price spread" to cover what is frequently called "marketing margins"; I will use the terms "cost," "gross margin," and "net margin" in the accounting sense.

I will limit my discussion to the four major dairy products — fluid milk, butter, cheddar cheese, and ice cream. It is estimated that in 1961, total consumer expenditures for dairy products will be about $10.4 billion and that farmers will receive about $4.8 billion for the raw milk used to produce these products. The four major products, in combination, will account for over 90 percent of the quantity and value of milk sold off farms, and close to 95 percent of the consumer expenditures.

The cost to the consumer for fluid milk has been affected by two offsetting trends: Prices for milk in individual types and sizes of containers have increased steadily since 1954; but at the same time there has been a definite shift to an increasing proportion of the milk sold in larger size containers and through stores. Milk in the larger size containers is generally priced lower per quart than in the single quart and store sales are generally priced lower than home delivery. The net effect of these two offsetting trends is that the weighted average price to consumers has remained very stable. During the past 6 years, the price of a single quart of milk has increased by about 14 percent — but the weighted average price paid by consumers has increased only about 3 percent. In the 4-year period of 1956-59, the weighted average price actually declined slightly.

Two other factors have held down consumer prices; first, the more extensive use of various types of quantity discount plans for home delivery sales; and second, the decreasing proportion of total sales accounted for by premium milks such as high-fat or "breed" varieties. The effect of the discount plans is substantial. In one market the home delivery price is 29 cents for one quart while the weighted average price is about 27 cents. Sales of premium priced milk, such as high-fat milk and breed milk, declined from about 9 percent of total sales to less than 3 percent in the 1955-59 period.

Whether farm value for fluid milk has increased or decreased depends on the base year used. If 1952 is used as a base, farm values are currently about 10 percent lower; if 1955 is used as a base, farm values are unchanged. Year-to-year changes averaged less than 2 percent over the 1952-61 period.

The net result of the 3 percent increase in selling prices and the unchanged farm value in the 1955-59 period has been an increase of about 6 percent in the farm-retail price spread — an increase of about 0.7 cents per quart of milk at retail.

Total operating costs increased 8 percent during the 1955-60 period — an annual rate of increase of about 1.6 percent. Costs for salaries, wages, and commissions accounted for over nine-tenths of the total increase. For all personnel in the fluid milk industry, increasing efficiency in the use of labor has not been sufficient to offset increasing wage rates. This has been mostly due to the costs of delivery labor.

Delivery wages were 54 percent of the total personnel costs in 1955; 63 percent in 1960. The nature of the delivery function is such that increases in rates of pay usually result in almost directly proportionate increases in unit costs. The only increases in the efficiency of delivery labor have been the result of changes in the nature of the delivery operations. Such changes include shifts from home delivery to stores, and reduction in the number of deliveries per week.

Changes in other operating costs have been minor and mostly offsetting. Prices for containers increased; but container costs per unit of product decreased as a result of the shift to larger sizes. The cost of facilities (rent, repairs, and depreciation) increased, probably because of a shift from manpower to machinery.

Net margins, before income taxes, varied from year to year, but do not show any trend factor. They stay in the range of 0.7 to 0.9 cents per quart.

In terms of a commonly used measure of marketing margins, the farm share for fluid milk has declined from 47 percent in 1955 to 46 percent in 1960, or about 0.3 cents per quart; marketing margins increased from 53 to 54, over 90 percent of this went to personnel; net margins were 4.1 percent in 1955, and 3.6 percent in 1960.

Unfortunately, we do not have as much detailed information on marketing costs for butter, cheese, and frozen dairy products as we have for fluid milk. Therefore, I will have to confine my remarks primarily to retail value, farm-retail spread, and farm value.

For butter, the trend of retail value and farm value has been the trend of support prices. Throughout the 1954-61 period the supply of butter has been, with very short seasonal exceptions, in excess of the demands of the commercial market, and the wholesale price has been at about the support price. The marketing margin has been very stable, ranging from a low of 21.1 cents per pound in 1956, to a high of 23.1 cents in 1958. In 1961, the marketing margin averaged 21.4 cents— down 0.6 cents from 1954.

The minor changes in total margin do not reflect the picture for components of the margin. During 1954-61, the manufacturer's margin (that is, the wholesale price minus the farm value) dropped 3.4 cents — from 9.3 cents to 5.9 cents per pound. The wholesale-retail margin increased by about the same amount.

The farm value of a pound of butter varied between 49.2 cents in 1954 to 53.7 cents in 1961. Farm value, as a percentage of retail value, varied narrowly between 69 and 71 percent; it has averaged 70 in 1961.

The story of the trends for cheese is much the same as for butter. Farm values and wholesale prices have reflected support levels, except from August 1959 through December 1960. During this period, prices were above support levels and support purchases were almost nonexistent.

During 1954-60, the farm-retail spread ranged from a low of 28.8 cents in 1956 and 1957, to a high of 31.0 cents in 1960. For the first 9 months of 1961, the spread has averaged 34.3 cents.

Another difference between butter and cheese margins is that the increase in margins for cheese has occurred almost entirely at the manufacturing level while the retailer's margin has decreased. Thus far in 1961, retail prices are higher than a year ago, but farm values have changed but little. Consequently, the farm value, as a percentage of retail value, is down to 47 percent whereas it had been higher for each of the previous 7 years.

For ice cream there has been even less change in marketing costs and margins than for the other major dairy products. During the 11-year period 1951-61, the retail price of a half-gallon of vanilla ice cream ranged from a high of 88.9 cents to a low of 85.4 cents; in 1961, it was 86.5 cents. During this period there has been a definite shift to the half-gallon container and away from pints and handpacked; therefore, the weighted average retail price has probably dropped by about 10 percent.

Farm value for a half-gallon of ice cream has been steady too — ranging only from 21.3 cents to 23.2 cents. As a percentage of retail value, the farm value has ranged less than plus or minus 1 percent from the average of 27. Farm value is a little higher for the fruit and nut flavors.

On an overall basis the major dairy products have been a good buy for consumers. While dairy product prices have been steady or declining, the average of all food prices increased some 13 percent. Per capita consumption of fluid milk and butter are probably due mainly to factors such as changes in food habits and competitive products.

For the immediate future, that is, the next 4 or 5 years, I can see no reason to expect any substantial change in the trends discussed earlier. That is, assuming that there is no definite change in Government policy and assuming that the cold war does not change into a hot war.

The current rate of production and the rate of increase in production indicate that the supply of milk will be more than adequate to meet commercial needs. The supply should be more than adequate for the population growth, considering that per capita consumption of dairy products is declining. Consequently, an increase in farm value is not indicated.

Wage rates for personnel will probably continue to increase not only because of new contracts in plants that now have unions but also because more plants will have unions. Also it should be expected that a substantial part of the gain resulting from improvements in efficiency will be passed on to workers in the form of higher wages. Prices for containers and for facilities will probably increase. But, these increases should be mostly offset by changes in the marketing system and by more efficient use of resources. For example, less of the processing of dairy products will be in the small and generally higher cost plant. Census data show that for fluid milk processing in 1954, 70 percent of the plants and 13 percent of the value added was accounted for by plants with less than 20 employees; by 1958, only 61 percent of the plants and 10 percent of the value added was accounted for by these small plants. In 1954, there were about 2,300 plants with less than 5 employees; but in 1958, only about 1,500 plants were this small. Comparable changes occurred for other types of dairy plants.

This trend toward fewer and more efficient plants will probably continue and offset increasing rates and unit costs. Therefore, marketing margins should remain about the same or increase only slightly.

REDUCING MARKETING COSTS AND MARGINS FOR FRESH MILK

C. W. Pierce
Pennsylvania State University

On reading the program for this workshop I directed my thinking beyond just the topic "Reducing Margins and Costs" to increasing marketing efficiency and improving marketing practices. So, I am going to talk about all three. And one of my major points will be that although these three topics are related they are not the same thing.

Costs may be reduced by means other than increasing efficiency. Margins may be reduced or for that matter increased without a corresponding change in costs. What constitutes "improving marketing practices" involves judgement in light of some objective. Not all cost and margin reductions result in improving marketing practices. Probably increasing efficiency doesn't always improve marketing practices.

For example, house-to-house delivery of fresh milk has always been a relatively high cost operation in terms of labor required. But at one time because of the perishability of milk and the lack of easy transportation for consumers, home delivery was necessary. In recent years, there has been a rapid shift in many markets away from home delivery to store sales. This did nothing to increase the efficiency of home delivery — the opposite is more likely true. But the costs incurred by marketing firms were reduced, partly by substituting store labor for route labor and partly by letting the consumer do a part of the marketing job. So in this case as in many others, costs were reduced not by increasing the efficiency with which a particular job is done but by changing the job and transferring part of it to the consumer.

Another suggestion that has been made frequently for reducing costs is streamlined plant operation. Given a particular volume of milk, limiting the number of products and packages processed in a plant will reduce processing costs. But I would argue that much of the cost reduction results not from increased efficiency but from a change in the job done. But what is more important, does streamlining a plant's operation to obtain lower unit costs result in improved marketing practices? This is what Ray B. Bush, Manager of the Milk Division of Safeway Stores, Oakland, Calif., said at the Agricultural Industries Forum at the University of Illinois, "Years ago we were proud to say, 'we keep our production simple by controlling at a minimum the number of items produced at a plant.' This does reduce unit costs, but we have found that it also reduces or at least holds down sales. The average customer wants variety, he likes to try something new. Ten years ago our average plant would pack only some 10 to 12 items, now we pack more items of cottage cheese alone and have added such items as fresh concentrated milk, sour cream, yogurt, fortified skim, Two-Ten, Multi-Vitamin milk, orange juice, and flavored drinks. Also, we have added larger packages — half gallons, two-pound cottage cheese, and in some instances five-pound." Obviously, in Mr. Bush's opinion the lowest possible cost did not result in improved marketing practices.

If I have succeeded in demonstrating that reducing costs and margins, increasing efficiency and improving marketing practices are related but not the same thing, I would like to discuss for a moment margins vs. costs. I remember an undergraduate professor of mine who spent a whole class period emphasizing that "margins approach costs" and "costs approach margins." During my own experience I have seen this demonstrated many times. But what interests me most about this is not just that margins and costs tend to approach each other, but that the difference between them is mighty important because it is either profit or loss. Just as I think we have made a fetish of cost reduction without much consideration of how this would lead to our objective, I believe we have tended also to be enamoured with pressing margins close to costs. If you want the fluid milk marketing agencies to sell fluid milk there had better be some profit left in the margin after the cost is taken out. After all, the larger fluid milk distributors are more and more becoming food handlers. The chain grocery stores already are. When the profits are in cottage cheese, yogurt and orange juice to say nothing of ice cream, cheese, margarine and vitamin pills, why should they push the sale of fresh milk.

Reducing margins close to the level of costs may save consumers a part of a cent per quart, but unless this helps to accomplish your objective — and it may do the exact opposite — it will not improve marketing practices.

There is one other subject I would like to discuss briefly before trying to enumerate some of the ways costs can be reduced and efficiency increased. What is your objective and what can be expected of lower prices to consumers. The morning program stated "a major objective of dairy marketing programs carried on by the States is maintaining and expanding outlets." What can increased efficiency, reduced market costs and in turn lower retail prices contribute to this objective.

Let's take the industrywide static situation first. Consumers do not make much response to a change in the price of milk. The best we know about the effect of price alone is that a 10 percent reduction in price will increase sales by about 3 percent. Translated that means that a half-cent reduction on a price of 25 cents would increase sales by less than one percent. Small reductions in price offer little hope for expanding markets. This is particularly true if these price reductions should come not from increased efficiency but at the expense of convenience, service, and merchandising efforts.

We should note also that fresh milk has over several years increased less in price than have consumer incomes. Consumers generally have sufficient incomes not only to buy adequate food and shelter but an increasing number of items which have become necessities plus a variety of new luxuries. Reducing retail prices of fresh fluid milk, as far as many consumers are concerned, is less likely to increase milk sales than to release money for some other purchase.

Considering only the short-time effects of price on sales, however, one could underestimate the importance of increasing efficiency. Some firms in every marketing area need to increase their efficiency in order to compete, the efficiency of home delivery distribution needs to be increased in order to compete successfully with wholesale distribution; and looking into the future greater efficiency and lower costs will be needed if fresh fluid milk is going to compete successfully with whatever concentrated products are developed.

Reserve Supplies

What are some of the ways in which marketing costs may be reduced? One major cost which is seldom recognized but does exist, is the cost of maintaining a reserve supply of fresh fluid milk. The amount of this cost is measured by the difference between the class I price and the blend price to farmers. When the blend price of milk is $4.50 and the class I price is $5.50, the cost of maintaining a reserve supply is $1 per hundredweight, or more than two cents per quart.

Assembly

Assembly is one of the minor costs in milk marketing. Important improvements have been made in assembly by the use of farm tanks and bulk tank pick up. Not only are costs reduced but quality has been improved. Important flexibility has been added to milk supply. By changing to bulk assembly, costs have been reduced, efficiency increased and the marketing system improved. Bulk assembly, of course, is old stuff but the process has not been completed in many fluid milk markets.

Processing Plant Cost

The cost of processing including container cost is almost always less than the selling and delivery cost, but its relative importance varies with the type of delivery. With home delivery, plant costs may constitute less than one half the selling and delivery cost, while under certain circumstances, such as operations by captive plants, the plant costs may be equal to or slightly in excess of the combined delivery cost plus store margin.

Several changes in processing methods and systems have led to increased efficiency and reduced costs. These changes include limited numbers of products, packaging only in paper or in glass and volume operations.

Increased volume has been the major factor in increasing processing efficiency. Greater volume per plant has resulted from fewer processors, wide area distribution plus a growing total market.

Volume, of course, spreads overhead costs over more units and permits the substitution of capital equipment for labor. Additional volume for a particular process within the plant can be obtained by specialization on products and packages. This is one reason why the producer of gallons appears to be so successful, the plant's output is concentrated in one or a few products and primarily in one package.

Selling and Delivery

Probably the more important changes cost-wise have occurred in distribution. These include:

1. A partial shift from home delivery to store sales.

2. Increased use of larger than quart containers; half gallon and gallon.

3. Increased use of single service containers.

4. Sales at processing plants, drive-ins, farms, and regular processing plant.

5. Less frequent deliveries on retail routes.

The most notable change has been from home delivery to store sales. Out-of-pocket costs for the marketing agencies have been reduced, probably without much increase in efficiency with which a particular job has been done. The cost savings have resulted from the elimination of service, home delivery, the substitution of store labor and the customer's own labor for that of the route man.

The growth of store sales particularly in the large chain stores could not have taken place without single service containers and the development of self-service within food stores.

Increased store sales have been accompanied by store differentials reflecting at least a part of the lower cost of selling milk through stores. The efficiency of store distribution has been increased by the volume per store and per route made possible by large self-service supermarkets. When store service is also reduced — the deliveryman operates merely as a truck driver — a marked reduction has been made in the distributor's per unit delivery cost, partly through efficiency and partly through substitution of store labor for delivery labor. In many markets, and certainly in Pennsylvania markets where minimum prices are established by a State control agency, store differentials do not recognize fully the cost savings of the sale of milk through large self-service supermarkets. On the other hand, store differentials may exceed the savings made by distribution through low volume wholesale outlets. One result has been an increasing number of tie-ins between a processing plant and a group of stores. The captive creamery is one result.

The shift of sales from home delivery to stores accompanied by store differentials has led to some changes on retail routes. These are somewhat interrelated and include less frequent deliveries, volume discounts, and larger containers.

REDUCING MARKETING COSTS AND MARGINS FOR MANUFACTURED DAIRY PRODUCTS

Hugh L. Cook
University of Wisconsin

This subject is almost as broad as the science of farm economics. The problem really is increasing aggregate farm returns from marketings of milk. It is not a simple matter of reducing margins, commodity by commodity, in a short-run sense.

Marketing margins result from:

1. The supply of and demand for raw farm products,

2. The supply of and demand for the various marketing services, and

3. The structures of the food processing and marketing industries, in relation to the structure of the farming groups that supply them.

Margins may be reduced by:

1. Managing supply of farm raw materials in pace with demand,

2. Increasing demand for farm raw materials,

3. Reducing the services consumers pay for in processed and delivered foods, along with the raw produce,

4. Furnishing better information on what is needed, by way of quantities, qualities, times and location,

5. Helping in technological and other innovation to improve efficiency of the processing and marketing agencies,

6. Increasing farmers' bargaining power and giving them the chance to use extra labor and other resources through vertical integration of farming into marketing, and

7. Regulating competition to assure competitive market structures.

The Meaning of Competitive Market Structure

We say that public policy is desirable that results in the most competitive market structure consistent with efficiency. This means that we should have the largest number of firms in an industry that can be achieved, consistent with the scale necessary to enter and survive in markets where there is an opportunity for growth.

Heavy concentration of sales in the hands of a few firms means that some firms have passed the size justifiable on grounds of efficiency. Added size serves chiefly to give them market power. The results have little or no public benefit.

In terms of improving the structure of markets, State departments of agriculture have sometimes engaged in administering unfair trade practice laws, and minimum markup laws. Occasionally State departments of agriculture are involved in administering State milk control laws. Each of these types of legislation is intended to restrain undesirable kinds of competitive behavior. Often the State departments are concerned with helping cooperatives to reorganize, and to consolidate.

State departments of agriculture have little to do with improving consumer demand in the aggregate, in terms of factors operating external to the marketing system. Advertising and promotion, carried on by State departments of agriculture, have most effect on product differentiation — differentiating the farm products grown in the particular State.

Selecting and Interpreting the Measures

Most people are not concerned with developing measures of market performance; they are engaged in using them. This means that they must select the meaningful ones for purposes of regulatory and service work.

One of the most commonly used of these measures is the price spread between farmers and consumers, usually expressed as the percentage of the consumer's dollar received by farmers.

Price spreads, however, are very useful for our purposes if studied over a period of time and in conjunction with other indexes. They can show that the farmer's percentage of the consumer's dollar goes up and down with the change in general business conditions. The price spread shows us that marketing margins are relatively rigid, though it doesn't show us why this happens. If the farmer's share of the consumer's dollar did not go up in good times, this observation would flag a point for further analysis.

If, conversely, marketing margins were to fall as a percentage of the consumer's dollar, has cost reducing technology been adopted? If so, has this increased or reduced profits in the industry? In what size groups has this increase or reduction in profits occurred? What could be the effect of this on competitive behavior? There are a host of relevant questions.

To supplement what can be obtained from the comparison of price spreads over a period of time, there are additional series. Many of these are available from the universities or U. S. Department of Agriculture. Others can be developed without undue cost.

In recent years several case studies have been made to show margins and costs on typical lots of a product at each level of transaction as it moves through the channel from producer to consumer. We made such a study in Wisconsin for cheddar cheese. Some things are revealed by this research procedure which are greatly obscured in general averaging of costs and margins.

What kinds of re-emphasis do we need on the work of State departments of agriculture more effectively to increase farm returns from marketing of milk, in the long run?

Some of this work may not even be in the agriculture department in a particular State. I am talking about service and regulatory work for agriculture and the food industries, wherever it is performed in State government. The suggestions follow:

1. Differentiate demand for farm products produced in their States.
2. Furnish better information in terms of what decisions do managers make.
3. Work for farm co-ops, but not uncritically — help choose productive farms of cooperation. There is more to be gained for farmers by cooperative integration into industries where there is market power, than into those where the farmer can only hope to improve processing efficiency. There is more to be gained by integrating into sales functions than into manufacturing functions.

Administer laws more carefully that affect competitive behavior of firms and ultimately will affect market structures.

In the manufactured dairy products industries, the relevant market is national. As I consider what State departments of agriculture can do to improve aggregate returns to farmers in the long run, I find that much of what I would suggest comes down to product definitions and standards of identity, grades, and sanitation. These are basic to innovation which may set the limits to competitive behavior, and may raise or lower the barriers to entry, thereby changing the market structure itself over a period of time.

Now, a summary of what I have tried to do here. Essentially I have rebelled against the idea that anything that serves to increase average marketing margins and costs for particular products as measured in the short run is bad, and anything that decreases these is good. I have argued that to achieve satisfactory performance of the dairy group of industries requires more sophisticated measurements, including but not confined to average price spreads.

Reducing costs and margins embraces the science of agricultural economics. I outlined the basic considerations in improving the marketing system, distinguishing these from things external to the marketing system. Many of these that affect the usual measures of costs and margins have nothing to do with the performance of the marketing system as such over a period of time. I have outlined some kinds of data which show the performance of the marketing system.

I have tried to show the things that State governments can do most effectively and specific instances of what they can do. In this I have stressed heavily their role in product standards and definitions for manufactured products for which the relevant market is national. They can differentiate State products and promote innovation. By dwelling on these, I did not intend to ignore their role of State governments in improved information, services to consolidations, auditing, or any other. Instead I was inviting a new emphasis toward action that appears to be relatively neglected.

THE DAIRY SUPPLY-DEMAND PICTURE

Henry A. Homme
North Carolina State College

Last year we produced 122.9 billion pounds of milk on U.S. farms. Average prices received by farmers at the plant for this milk was $4.21 per hundredweight for milk testing 3.75 percent. This was 85 percent of parity. Support prices for manufacturing milk rose in March 1961, from $3.22 per hundredweight to $3.40 per hundredweight. Prices paid by dealers for milk for fluid use in 160 U.S. markets during 1960, averaged $5.48 per hundredweight.

Milk production this year is running about 2 percent over last year. Since milk utilized for fluid use this year is running below the 1960 level of 324 pounds per capita, more milk has been available for manufacturing than last year. Last year between April 1 and August 31, the Commodity Credit Corporation bought 82 million pounds of butter, 196 thousand pounds of cheese, and 437 million pounds of nonfat dry milk. This year CCC purchases for the same period were 186 million pounds of butter, 58 million pounds of cheese, and 477 million pounds of nonfat dry milk. Last year the CCC purchased 8 percent of the solids not fat compared to 3 percent of the butterfat. These percentages will be substantially higher this year.

Since fluid milk and its distribution has been fairly well isolated from manufacturing milk production and use, and because we may expect changes in supply to be more volatile than changes in demand, I would like to discuss five trends which I consider important and which we may extrapolate into the future.

1. Milk production has been shifting regionally.

2. The changes in supply and consumption of milk components, including nonfat solids, butterfat, and milk liquid, have become an important part of the supply-demand picture.

3. It has become apparent that a substantial amount of the milk used for manufactured dairy products has attached itself to the regulated milk pricing structure, pooled under such regulations, and priced under such regulations.

4. Variation in production techniques now possible will tend to increase the differentials in production costs between the high cost producer and the low cost producer, and such changes in production technique may shift regional production patterns.

5. Shelf life is increasing and transfer cost declining.

Regional Shifts in Milk Supplies

Percentages of the supply of milk produced in various regions, indicate that milk production has been shifting gradually to follow population. Corn Belt and Mountain areas have remained constant proportionately. Plains areas have declined while the Northeast, Lake States, Appalachian, South Atlantic, Delta States, and Pacific areas have increased.

Changes in the Supply-Demand Picture for Milk Components

In the 1940's people ate about 32 pounds of milk fat annually; now the figure is a record low of 26 pounds. On the other hand, per capita consumption of nonfat solids increased from 44 pounds to 49 pounds during the same time period.

The per capita consumption of ice milk, American cheese, and cheese spreads, fluid skim milk, nonfat dry milk, and cottage cheese has shown steady increases. These products are relatively heavy in nonfat solids and low in milkfat. Butter consumption reached an all-time low last year of 8 pounds per person, while margarine has steadily gained and is now 9.2 pounds per person.

With people eating less milkfat and more nonfat solids, it seems odd that the price of nonfat solids relative to milkfat has not risen. But during the past 20 years a remarkable change has occurred in the marketing of milk. In 1940, about 50 percent of the skim milk in the United States was fed to livestock, now only about 10 percent is kept on farms.

Sending the skim milk to market has increased the supply of skim milk solids faster than we can find uses for it. However, with our present trends in product utilization of skim milk solids, and the possibility of increased usage in peace programs and increased percentages of nonfat solids in milk, eventually our excess nonfat solids will be used up and we will find the price of nonfat solids rising relative to butterfat.

The Inclusion of Manufacturing of Milk in the Regulatory System

Of the 5.3 billion pounds of milk delivered in California in 1945, 2.2 billion went to manufacturing plants. Another 350 million was delivered to fluid plants and diverted to manufactured milk products. The total volume used for manufactured milk products was 2.6 billion pounds of milk. Compare this with 1960 — then the total deliveries were 7.8 billion pounds of which 1.5 billion went to manufacturing plants, and another 1.4 billion processed through the regulatory structure for market milk before being diverted to manufacturing. Actually, California used more milk in manufactured dairy products in 1960 than in 1946, but half of it was processed through the regulatory market milk structure.

North Carolina farmers delivered 144 million pounds of milk to manufacturing plants in 1955. By 1960, this had dwindled to 99 million pounds. During this period the surplus milk handled through the regulatory structure increased from 52 million pounds to 102 million pounds.

The August 1961 Federal Milk Order Market Statistics listed the percentage of milk in the various sections of the country handled under Federal Milk Orders. These percentages varied from 12.3 percent in the West to 79.5 percent in the New England States. The article went on to say that in 1956, 33.1 percent of the milk in the United States was delivered to Federal Order Plants. By 1960, this percentage increased to 43.3 percent. An estimate by the Metropolitan Milk Dealers Association in New York estimated that 99 percent of the milk in the New England States qualified for fluid milk use.

The point I want to make with these statistics is that the volume of milk used for manufactured dairy products which moves through State regulated markets or Federal Order Markets is steadily increasing. In my mind this leads to three conclusions:

1. Better quality milk is being used for manufactured products, since most order markets require high quality milk.

2. There is more need for close coordination between the Federal support program and the milk regulatory program.

3. Problems in handling the additional surplus in Federal order and State order markets are increasing. These problems not only involve the physical transfer of milk to manufacturing markets, but also involve classification and pricing problems associated with more surplus in fluid markets.

Cost of Production

There is an increasing interest being shown in examining new ways of producing milk. Among the studies are several by leading economists. Using synthetic budget and programming approaches, Coutu and Hileman came out with the following results:

Using conventional systems of milk production and such input costs as $1.50 for labor, $250 an acre for land, 6 percent interest on capital investment, and 10,000-pound cows, they came out with costs of from $5.53 to $6.09 for one-man operations, reduced to $5.13 to $5.44 for a two-man operation. Attempting to lower costs by assuming more advanced systems, they concluded it was possible to lower costs to $4.70 per hundredweight. They estimated also that if the yield per cow were to be increased from 10,000 pounds to 12,000 pounds, costs might be reduced to $4.05 per hundred or perhaps even a little lower.

I would like to propose that as we find new ways of producing milk, we will find the range in cost between the high cost producer and the low cost producer will increase. This may mean that while one group of farmers is saying they are not receiving a high enough price for milk to meet their production costs, others will be able to produce additional milk at costs that will permit them to sell milk into surplus categories for manufactured milk purposes. Thus it is likely that greater percentages of manufactured products will be made from milk of grade A quality.

Increasing Shelf Life

Milk keeps longer than it used to. The longer shelf life of milk is due to the magnificent improvements by producers in milk quality — better management, better equipment, and more care in milking. It is due to better refrigeration all the way along, cleaner equipment, better pasteurization, and constant control. The shelf life of milk will continue to rise. We have been using this better milk quality to provide economies in the assembly, processing, and distribution system. With bulk tanks we hold milk two days on the farm, decreasing hauling costs. Plants schedule processing of some products twice a week to make a 5-day operating week possible. Homes can keep a three- or four-day supply.

Home venders become more practical when milk keeps longer. Vending machines in factories and schools become more feasible. Single service containers and better refrigerated trucks have put this longer lasting milk into mountain and seashore areas where previously milk was not available. The housewife can buy less often at the store without fear of milk spoiling; and when true sterile milk becomes common on our markets, the cost of refrigeration may be eliminated except at the point of consumption.

There will continue to be pressure to improve quality of milk. Bulk handling and cleaned-in-place pipelines may become standard. More attention to cow diseases will become mandatory. Sometime in the near future, we will have pressures to put all farms under farm inspection. Sterility of milk will not be sufficient, milk must also be clean — which means that the farm conditions and the milking operations must be under inspection. When this occurs, the distinction we make now between manufacturing grade milk and grade A milk will tend to disappear.

Implications of this quality picture are first, that production costs will rise. Second, that milk will be able to move more freely regionally and inter-regionally. Third, that prices must become more uniform across the country and among different products. Fourth, that in order to meet these changes, our dairy firms and dairy cooperatives will have to change, too.

Summary

These trends are very important to the aggregate supply and demand of milk. If we are going to control the supply of milk, for example, it may well be that the best way to do so is to increase the amount of milk flowing through our regulatory structure, since it is likely this milk is of high quality. Rigid supply controls may be placed on milk supplies outside of the regulatory structure, since it is likely this is generally not as high quality. This may seem like a difficult proposition. In North Carolina we have about 8,000 manufacturing milk producers and about 4,000 grade A producers. While the grade A producers produce more milk for manufactured products than those delivering direct to manufacturing plants, they have only half as many votes.

While we can make some estimates of the trends in consumption and the trends in production together with the associated prices, we must not forget that war, health fads, price supports, the nature of regulatory structure, and other imponderables will probably be most significant in the supply-demand balance. For this reason, I have emphasized intermediate rather than aggregate predictions.

FEDERAL ORDERS AS A MILK MARKETING TOOL

G. M. Beal
University of Maryland

Although Federal orders can and many do provide for base surplus plans designed to encourage more uniform seasonal production in fluid milk markets, the Agricultural Marketing Agreements Act of 1937 specifically prohibits the use of Federal orders as a means of limiting either the production or marketing of milk. Under the Agricultural Adjustment Act of 1961 no change was made in this feature of the Agricultural Marketing Agreements Act pertaining to Federal orders for milk. Therefore, although there has been considerable discussion of the use of Federal orders to establish and enforce marketing quotas for fluid milk, this cannot be done pending further action by Congress.

Marketing Area Boundaries

Every Federal order establishing minimum milk prices provides for specific marketing area boundaries and stipulates that all milk sold at wholesale and retail within these boundaries shall be subject to minimum price control. Local, State, and Federal health regulations applicable to the marketing area defined under the order determine which producers are eligible to sell milk in the area and the minimum prices of the order apply to these producers without regard to their geographic location.

The marketing areas defined in the orders established prior to World War II were generally limited in size to approximately the city limits of the metropolitan community. The wholesale and retail routes of milk dealers usually extended relatively short distances beyond the city limits and rarely extended into secondary urban markets.

Distribution facilities and processing and packaging techniques had developed by the end of the war to the point that wholesale and retail routes extended far beyond the city limits of our major metropolitan market until city processing plants were supplying consumers 100 miles or more from the plant.

The hearing records and the recommended orders and decisions generally indicate that an effort is made by the Secretary of Agriculture to establish marketing area boundaries as nearly as possible where there will be a minimum of route extensions in either direction. In recent years establishing this kind of boundary has been exceedingly difficult and at the same time has resulted in marketing areas which are now far beyond metropolitan city limits and may take in several counties of a State. This is particularly evident in the State of Maryland where the combined Washington, D. C. and upper Chesapeake Bay Marketing Areas include 19 of the 23 counties of the State. The outlying counties of the upper Chesapeake Bay Marketing Area certainly are not urban and are not associated with the city of Baltimore, but it is also clear that substantially more than half the milk sold at wholesale and retail in the majority of these counties comes in packages from plants of handlers who would be subject to regulation even though the marketing had been restricted to Baltimore city limits. Thus the extended marketing area has relatively little effect upon milk producers, but provides handlers regulated under the recent orders protection against competition from flat price buyers who would pay flat prices if they were not subject to regulation and by "riding the marketing area blend" place themselves in an advantageous competitive position at wholesale and retail with fully regulated handlers.

It is obvious that any flat price handler, limiting his business to the sale of milk for fluid use, and purchasing from producers near the existing blend of a major cooperative of the market blend of a nearby Federal order will experience higher costs if he becomes regulated. It is also obvious that no matter where the market area boundary falls there will be some handlers on the border who will be partly in and partly out. If their operation qualifies as a pool plant they will become fully regulated, if not they will be subject to compensatory payments for the volume of milk distributed at wholesale and retail in the area.

The recent actions of the Secretary of Agriculture concerning marketing area boundaries in new Federal order markets indicate that the policy of extending a marketing area as far, at least within a State, as the local distributors are supplying more than half of the milk is likely to continue and probably is the most reasonable approach all things considered.

Price Level

Recent decisions have given recognition to the transportation and handling techniques which facilitate long distance economical shipment of milk for fluid use far beyond anything which could have been anticipated 30 years ago. Minimum class I prices have been established generally equal to class I prices in the surplus areas of the Middle West plus transportation and a minimum handling charge. Similarly the design is to establish class II prices which will reflect middle western manufacturing milk prices plus some recognition of probable or reasonable transportation cost on manufactured dairy products. The disagreement on these levels in markets which are a long distance from the Middle West generally seem to be in the area of determining proper differentials from the surplus producing area rather than on principle.

Pool Plant Definitions

Generally, pool plant definitions hinge upon historical performance and delineate some percentage of class I route sales as a minimum requirement for pool plant status. There are peculiar market requirements of substantial variability between markets.

Plant definitions are significant because they tend to restrict or relax the limitations on volume of milk subject to regulations in a particular marketing area. These definitions become issues in connection with inter-market relationships. Persons associated with markets defining a pool plant in such a way that it is practically a matter of dealer preference argue that markets having more restrictive definitions are unloading the entire surplus of the area on those who do not limit entry.

Compensatory Payments

Compensatory payments consist of payments made by handlers who have route sales in a marketing area, but do not qualify as pool plants. Such a handler is not regulated as far as his own producers are concerned, but must pay to the market administrator the difference between the class I price and the class II price under the order on all milk distributed at wholesale and retail enroute inside marketing area. This sum is allocated to the entire market pool and slightly increases the return to all producers who receive minimum price protection under the marketing order. This system also is designed primarily to protect fully regulated handlers against price competition from large firms who are not shipping a sufficient percentage of their total route sales in the marketing area to receive pool status but are offering substantial competition to fully regulated handlers at wholesale and retail in particular parts of the marketing area.

Handler vs. Market Pools

Market pools were established in most Federal order markets primarily because the cooperatives requesting these orders were already operating cooperative pools. In some markets, however, cooperatives were operating on a handler-pool basis, which means that each handler pays the producers who deliver milk to him on the basis of his own utilization, therefore at the same classified prices one handler will pay substantially more than another to his producers depending upon the relative percentages of milk used for manufacturing purposes.

It is generally recognized that dealers who operate in a handler pool market will reduce their power in holding producers or to seek others if they manufacture dairy products in sufficient volume to reduce their blend price considerably below that of their competitors. As a consequence it is argued that handlers in such a pool tend to restrict their purchases even to the point that producers are cut off in the spring months and the cooperative must seek out-of-area market outlets for this milk. Hence, a handler pool market tends to maintain higher blend prices to producers and shift some of the surplus being produced in that market to other markets.

These difficulties occasionally reach sufficient proportion to create pressure for the elimination of handler pool markets from the Federal order program.

STATE MILK CONTROL AGENCIES AND SUPPLY REGULATIONS

Donald S. Conkey
Central Florida Milk Producers' Association

What I say is said with a constructive attitude in the hope that what develops in the years ahead will be easier than our first efforts. One can hardly be constructive unless one builds a foundation and in this case the foundation is existing State and Federal regulations.

We in the dairy industry are not unique in searching for tools for managed marketing. Turkey growers are seeking a Federal order; celery growers in Florida have a marketing order which regulates quality of shipments and theoretically gives the order the power to limit shipments and/or cuttings. Many other commodity groups are seeking ways of controlling their supply to equate more adequately the demand in the hope of increasing the returns to their members or producers. Unfortunately, cooperative ventures usually end up asking for the help of the police powers of either the State or Federal Government. In our industry we have both. I am very strongly of the opinion that both State and Federal orders need sound overhauling to meet the demands of the future.

I know that if any headway is to be made by using the police powers it will take the full support of all departments of agriculture because as agriculture diminishes percentagewise, our industry will need to come closer and closer together, not only as a separate commodity entity, but allied with other agricultural commodity interests as well. To accomplish this will require a common leader and your departments could very well function as that leader.

Three years ago, the Florida Milk Commission, over the heated protests of producers, invoked what has become as close to a "regulated supply" market as exists today. The Commission at that time stopped a "base race" and ordered producers to cut back in their entire output at the full class I price while others received a blend price because they overproduced their base requirements. However, this I assure you has not come easy and the reasons for its limited success are many.

1. That the Chairman of the Commission then was a very determined person and one who knew how to carry out his convictions. To say that most of the orders were taken to court and sustained gives an indication of the resistance given this plan.

2. The tremendous increase in yearly sales came to an abrupt halt and about this time statistics indicated the producers had better favor controls or find ways of handling surplus. They chose to favor production limits believing that oversupplying tended to depress price.

3. The Administrator of the Commission was a very able person and was able to absorb innovations where needed. He worked well with the producer associations and this proved very beneficial.

4. Producers had strong associations in each major market and they spoke independently of distributors and often opposed violently the desires of both the commission and the distributors. These associations backed the regulations and absorbed the shock wave when objections from the producers came, and the last major one — at least these are all I think of now — is that there are fewer producers in the State producing much more than the U. S. daily average. Three hundred-and-eighty gallons or 3,200 pounds a day in my area and up to 1,400 gallons or 12-13,000 pounds a day in the Miami area. The virtual closing of the bases gave a monetary value to the base gallons or shipping rights. Bases have sold for up to $100 a gallon and this has allowed the more inefficient to get out and receive a return for what they had invested. One distributor has lost 44 percent of his producers in 3 years. All having sold out.

Now that I have explained a little of the program existing in the State controlled areas of Florida I suspect my next question would be — How can State agencies act as a tool in the managed marketing field of the future?

If I were asked if the State-controlled agencies existing today would be capable of acting as a tool in managed marketing I would have to say that most of them would not. My reasons for this answer are that very few State agencies are stable enough politically to stand the pressures that would be exerted by the various segments of the industry. Administrators in some States change with the Governor, others receive only a floor sweeper's wage.

Others make nice buddies but in this game you can't be buddies with everyone. The stakes are high. In Florida, one cent a gallon is equal to a million dollars a year. A point of butterfat equals half a million dollars. To be successful an administrator must have the respect of producers, distributors, and government. Under many existing structures this is impossible.

If existing agencies cannot do the job — why consider them? Because I feel they do have a niche to fill, not alone — but in cooperation with the Federal Government. If asked about blanket national quotas, my opinion is that it would be a most serious mistake. Unless high cost production States do not take steps to control their supply there will be national quotas. Our Midwestern States are getting fed up with seeing overproduction in hither too short supply areas take over their manufacturing product markets. The day is not far off when the bottom is going to fall out of the dairy industry unless these facts are recognized by Eastern, Southwestern and Southern States. The State agencies' ability is in joint cooperation with the Federal Government. One controlling or handling the supply regulations while the other handles the audit system and interstate military shipment system. This combination can be made to work successfully.

I would like to express a few opinions as to how the State agencies, either the departments of agriculture or separate control agencies, will have to operate in the near future if State agencies are to survive long enough to fill the niche I earlier explained.

It is my opinion that if State control agencies are to be an effective tool in future managed marketing programs many of them will have to drastically change their present programs to encompass:

1. Market pooling with limited access of new or expanding producers. My reasons for this being that the cost squeeze is on distributors as well as producers and in larger markets a change of large accounts can drastically affect the producers of an individual handler market. Of course, no plan can exclude new producers but an order can provide provisions which have to be met before new producers are allowed to enter.

2. A system of setting up a "regulated supply program." This can be done much more effectively on a market basis than on a national basis. The Southern States will have to be the pioneers in this because of the smaller number of producers. It can be done effectively and unless it is done national quotas are inevitable.

3. More stability will have to be given the agencies, especially the administrators. Being a political friend of the head politician does not make a good milk administrator. Continuity cannot be had with continual changing of agency heads. The needs of the industry are so great that this is probably the first prerequisite. This also will be the toughest job because distributors and producers have different requirements when thinking in terms of control agencies and the administrative heads of such agencies.

4. The encouragement of strong producer associations. It is impossible to carry out any program effectively unless your producers understand or have a means of understanding the aims. No agency can be large enough or politically free enough to do this job. It no doubt will require the passage of enabling legislation such as Florida has for its celery people. It has adopted a law which requires the participation of all producers if certain requirements are met. Something similar to this could work very effectively for the dairy industry in each State at the producer level.

5. An effective auditing and classification program. In my opinion not very many State control agencies employ effective audit systems. Controls are worthless if exacting audits are not made. Tied in with this auditing system must be a classification system that is fair to the producer. When I say fair I mean a classifying system that has logic tied in with it. I have just completed a study of 5 Southern States with regard to their classification systems. In this day of increasing low fat sales I find not one of these States included all skim sales as class 1. One State had all skim sales as class 2, another 12-1/2 percent as No. 1, and the remainder as class 4, or less. In Florida, the thinking for years has been that if a product did not meet the fat requirement of milk (3.25 percent) then the producer should not receive the class 1 price for it. We hope we have stopped this glaring injustice to our producers. These items currently classed other than class 1 in these 5 States make up around 15 percent of the total fluid sales. The irony of it is that practically all Federal orders require these items to be class 1. No wonder the number of Federal orders has increased so rapidly lately.

6. The effective use of joint Federal-State market systems. As I explained earlier I think this can be accomplished and will need to be accomplished in the immediate future if any sanity is to remain in the dairy production field, and unless producers are aware of these facts and learn to control their supply then all the public relations in the world won't keep our urbanizing society off our necks. The job is up to the producer but the various departments of agriculture must lend their support in helping him make his decisions.

STATE MILK CONTROL AGENCIES AND SUPPLY REGULATIONS

L. L. Clough
New York Department of Agriculture and Markets

State milk control began in the depression of the 1930's because of the extremely low prices that producers were receiving and the accompanying threat of producers going out of business to the extent that there might not be enough milk for the inhabitants of the States.

Price fixing was a common feature to many of these State regulations. It was necessary both to stabilize the resale prices and to endeavor to secure for producers prices which would meet reasonable costs of production.

We gradually came out of the depression, producer prices began to improve, and there were changes in the control programs.

One major factor was the advent of the Federal milk marketing orders. It became clear early in the 1930's that the States could not control the prices paid to producers in other States even though the milk was marketed in the State where prices were regulated. However, without some such price control, any State program would be seriously handicapped. Federal milk marketing orders was the answer. At first they were put into effect where serious interstate problems arose. Later, they were used in markets with relatively small amounts of milk moving in interstate commerce.

In a very few instances the Federal orders are administered in conjunction with the State order, the most outstanding illustration being that of the New York order which became effective in 1938 along with a New York State order. In 1957, with the addition of some of northern New Jersey to the marketing area, a New Jersey State order became effective.

With the advent of Federal milk marketing orders and with increasing prices and less emergency conditions, some of the price fixing by the States was discontinued. Then we had a period of wartime regulations with limitations, large supplies used by the Armed Forces, followed by a postwar period of relatively high consumption of dairy products.

During this war and postwar period milk was shipped considerable distances to Government installations and to deficit States. Prices paid for this milk were quite high, augmented by high transportation costs. These high prices undoubtedly stimulated production in some of the deficit States so that they became able to supply a much larger portion of their needs. Milk which had heretofore been shipped to these markets again became a supply for its normal market and surpluses began to be burdensome.

Marketing orders tend to improve prices to producers and have the effect of encouraging production. Some marketing orders with marketwide pools had the additional factor that dealers found it profitable to increase the volume of milk handled and they too, encouraged increased production.

Those markets with dealer pools, also found increased production taking place. Since dealer pools do not provide for a sharing of surplus burdens, dealers with more than one plant, in some instances transferred one or more plants to a marketwide pool, if possible, and encouraged individual producers to transfer when surpluses occurred.

This problem of increased production, accompanied by some decrease in per capita consumption has resulted in lower prices to producers and is of concern to regulatory agencies.

With lower blend prices, producers request high class I prices in order to improve their blend price, but it is not fair to consumers to increase the price of fluid milk in order to subsidize the production of surplus.

A number of States still have some kind of regulatory program. Some fix prices to producers, some fix retail prices, and others have other types of regulatory programs.

A survey of 23 States having milk control programs shows that only 4 of these States have any type of supply limitation program as a part of their regulations. There are at least 6 other States in which the milk control regulations recognize plans which may be in effect between dealers and producers if they meet the approval of the regulatory authority.

In Florida there are some markets in which regulations limit the amount of milk which a producer may deliver to a milk dealer, and producers have bases which are a percentage of the dealer's class I sales.

Mississippi has provisions in each of its orders for base and excess plans. New bases are formed each year and there is no restriction on the amount of milk which may be delivered during the base forming period of 5 months.

Virginia licenses producers and establishes bases for each one. New producers are licensed in order of applications upon a showing of need for their milk in the market. In determining need, total bases of all producers in excess of 8 percent over class I sales is considered to be an adequate supply. If a new producer enters the market, he has a greatly restricted base for four delivery periods after which he fares the same as other base-holding producers.

In New York the law provides that new supplies may not be approved for a market unless there is shown to be a need for the added supply along with certain other requirements. However, once a producer has been approved for a market, there is no restriction upon the amount of milk he may produce and deliver. It should also be mentioned that this provision of the law does not apply to the city of New York and in fact, to the entire market regulated by the Federal order.

Several State regulatory agencies are considering the problem of supply regulation, and producer groups are likewise considering the problem. A nationwide quota plan has been under consideration and has been widely discussed. It does not seem likely that such a program will become effective on a national basis in the immediate future. Many producers would favor such a plan, but it appears that many do not favor it. It would seem that the outlook for such plans seems most likely if considered on an individual market basis.

One of the plans which seems best adapted to individual matter is the two-price quota plan, and I am indebted to Dr. Leland Spencer for a brief description of such a plan, which I will quote.

> "A two-price quota plan in a regulated market would involve the assignment to each producer of a base or quota representing his share in the total fluid sales of that market, or perhaps his share in the fluid sales plus a necessary reserve. For this quantity of milk he would be paid a fluid milk price or slightly less. For any additional milk delivered to the market he would receive a surplus price."

There are details in connection with such a program which would have to be worked out. The period during which the bases would be arrived at would have to be decided. Whether or not the bases would remain constant or be revised at intervals is another consideration. Provisions for transfers of bases and for bases for new producers would have to be made.

It should not be expected that such a plan would cause any great immediate change in production. Some producers would plan to adjust their production more nearly in line with their quota. Other producers would find it necessary, at least for the time being, to continue their present production to meet fixed costs.

Such a plan will tend to discourage new producers from entering the market, and in the long run will tend to discourage production of milk for manufacturing which is produced at a loss when such milk is paid for separately or in such a way that the return for that milk is shown separately.

As Dr. Spencer pointed out in a recent article, in such a market as the New York-New Jersey market, some of the surplus associated with that market properly belongs to other markets of the Northeast, and in such a case it might be better to have a regional uniform quota plan.

These or other plans need careful study by regulatory authorities. No plan will work well unless producers understand it and favor it. In many areas legislation will be needed before any such plan can be made effective.

SUPPLEMENTS TO FEDERAL AND STATE MILK ORDERS AS SUPPLY CONTROL DEVICES

Paul E. Hand
Inter-State Milk Producers' Cooperative

Federal and State milk orders have served and continue to serve a valid and extremely important function in the dairy industry. These plans basically came into use to bring price stability by minimizing the effects of competitive forces. These plans have been acceptable to dairy farmers, who, in Federal orders at least, vote for their adoption. Federal and State orders have helped and continue to help producers by enforcing classified pricing on the part of handlers and usually by giving preferential allocation to producers supplying a defined marketing area.

It is my opinion that Federal and State orders, in the main, were not designed to control milk supplies, per se, and therefore, cannot be condemned for failing to perform this function. The growth in output by dairy farmers continues under Federal and State orders, as well as in other areas of the country not operating under such plans. Under these conditions overproduction, defined as being a problem, will continue to be a problem. The technology is available and the potential is eminent that milk production could continually increase, aside from the effects of weather, at a much faster rate than it has in the last 10 years. This being the case, where do we look for a solution to the problem?

Today, many people are looking toward nationwide or national quotas in conjunction with State and Federal marketing order programs. Enabling provisions for production quotas were contained in the Administration's Omnibus Farm Bill early this year. The chief argument for national quotas is their price and income raising effects. However, these effects may be illusory. The chief argument against national quotas is their deterrent effects on production efficiency and economic growth. Most of the arguments have been in philosophical and general economic terms and a precise plan has not been proposed.

It has been stated by many people in the dairy industry that farmers are not ready for national production quotas, and I agree with these observations.

I believe that national quotas will bring on an entirely new set of problems and the solutions are not now at hand to solve these problems. Since we are all responsible for only a small segment of the total supply, I think we should look at our own particular situations and see what plans or programs we can implement in our own areas.

Due to enforced classified pricing by Federal orders and preferential allocations to present producers supplying fluid milk markets, there is, in my opinion, a large area wherein plans and programs can be developed which will be helpful to dairy farmers and which will overcome many of the philosophical and economic arguments propounded against national quotas, fixed producer quotas under Federal orders, or any other rigid and structural program.

Basically, there are two decision-making forces operating in the marketplace who determine the volume of milk associated with a particular market. These forces are the farmers themselves, each making an individual judgment as to how much milk he is going to produce, and the handlers, cooperative and proprietary, making a judgment as to how much milk they are going to purchase.

In southeastern Pennsylvania and southern New Jersey, we have followed the basic premise that a handler pool best equates the desires of handlers and producers to fluid market needs. This end has been accomplished in the past by the variation in blend prices among handlers regulating the volume of milk that the handler could purchase, thereby discouraging large scale manufacturing operations from becoming associated with a particular market. However, total production in some sections of our region has been growing more rapidly than total market needs, the same as elsewhere.

During the last 10 years, records of our Cooperative show that we have lost producers at the rate of about 8 percent per year, while the rate of increase in production per producer has been about 10 percent per year. Some of the increase comes about because, on the average, smaller producers are leaving dairying as a business. At the same time, there has been an increase in new producers during this period of about 5 percent per year. This rate of increase of new producers has been faster than was needed to meet expansion in fluid sales in the marketplace. The net loss in the number of dairies has been about 3 percent per year, or about 30 percent of all dairy farmers in the last 10 years. This rate of loss has been about the same rate as the rate of loss in dairy farmers in the middle Atlantic region.

The important thing to be gained from these statistics is the fact that we are not dealing with a static population of dairy farmers, and that efforts to decrease the rate of new producers coming into the dairy business, excluding family transfers, could work as well in decreasing the rate of expansion in the market milk supply as could any plan to impose fixed quotas on present dairy farmers.

This avenue was explored when some of our producers indicated an active interest in working out payment plans with dealers based on the base surplus concept; that is, an individual producer would be pooled monthly on the basis of his own individual utilization obtaining a class I price for his pro rata share of the class I sales of an individual dealer and a manufacturing or excess price for all production over his individual pro rata share of the individual class I sales. A producer's pro rata share of class I sales is determined by the relationship of his production in a predetermined base period using the short production months (variable in number) during a previous 1- or 2-year period. If any producer does not produce his pro rata share of class I sales during any month of the year, the monetary value of that production in excess of the manufacturing value of that production is used to increase the payment of all pro rata shares of class I sales. This program differs to a considerable degree from base-surplus plans in use in Federal order markets.

This program is in operation by mutual agreement between our Cooperative and individual dealers for the producers supplying each of the dealers on a handler pool basis. These payments will vary between dealers as to base months and other details. This norm-excess plan is in the experimental stages and still has some bugs to be overcome, but it has been successful to date.

All the plans incorporate the provision that if the dealer needs additional milk for class I or fluid sales, he must give the present producers at least 30 days to increase their production to meet these added sales before any new producers are added to that particular dairy. The new producer would be given the base which was offered to the original producers. This plan requires a close degree of cooperation by the Cooperative and the handler, and an understanding of all producers of how the plan operates. The essential feature is that new production is discouraged on the market unless class I needs increase to indicate a need for this production.

The intent of this type of payment plan is to price any production above class I needs on the part of a producer at the excess or manufacturing value for such production. This plan will work in handler pool markets as long as the benefits from the fluid sales are not lessened by increased milk supplies from other producers or by the possible addition of more producers whose milk would be free of base restrictions.

In the market pool markets the assignment of bases to producers and the payment of a uniform price for that base becomes more difficult because handlers not party to an agreement and operating manufacturing facilities could add more producers to decrease the total class I utilization in the market, while producers part to such an agreement would be decreasing their production to increase the fluid utilization in the market. In order to overcome this objection, marketwide producer quotas have been advocated. However, as stated previously, there is a strong possibility that a majority of producers will not vote for such quotas.

The avenue is still open to use economic forces through pricing on the other decision-making force determining the volume of milk in the marketing area, namely the handlers themselves, cooperative and proprietary. This could be accomplished by placing a quota on each handler regulated under each market pool order and each handler could pool the assigned quota of milk at the uniform price. If he purchased any milk from producers above the volume of milk which he could pool, the producers within that handler's plant or system would be paid an excess or manufacturing price for each producer's proportionate share of the excess production. This would result in a semi-handler pool operation within market pool markets. That is, those handlers contributing to the excess milk in the market would be disadvantaged to the extent that the extra milk purchased was in excess of their assigned quota and the uniform price paid by these handlers would be below the market average.

If a handler did not pool his quota for a particular month, this would result in an increase in the uniform price for that particular month. Such quotas could be transferable among plants and handlers, and a presently unregulated plant could not participate in the pool without obtaining quotas from some plant already in the order.

The markets with milk much in excess of market quotas could be gradually shrunk to bring about a desired adjustment between receipts and fluid needs.

Each producer would be given a proportionate share of the quota at each plant based upon some historic delivery period. If a producer changes between handlers the producer's quota would be transferred to the new handler and this amount would be subtracted from the previous handler's quota. Replacement producers, of course, would obtain quotas from producers whom they replaced within the individual handler's system.

In my opinion, this program could be operated under the Agricultural Marketing Agreement Act in the Federal order program and would supplement the present pricing system in maintaining a balance of supplies for the fluid market. Growth in market supplies above fluid needs would be priced or paid for at excess or manufacturing prices rather than at blend prices as currently. Blend prices for quota milk could be increased by decreasing the size of the quota relative to fluid sales.

These suggestions are made to bring economic forces to bear on the major problem facing dairy farmers, which is whether it is the obligation of the present market structure not only to provide a market for all producers presently in the dairy business, but also for all who may wish to come into dairying. It seems that the major obligation is to take care of present dairy farmers and to let the total market system accommodate future dairymen as they are needed to supply that system, not as these potential dairymen may wish to produce milk to the disadvantage of all present dairymen. This requires a change in the philosophy that the job of the market structure, and cooperatives in particular, is to provide a market for all milk wherever or whenever produced.

I will add that the main emphasis in managing a milk supply should be to seek proper alinement between defined producer receipts and class I or fluid sales in the predominantly fluid milk markets. Efforts in this direction can make use of present pricing programs, which heretofore have been neutral on the question of supply control. It is my belief that these suggestions have retained the benefits of the present pricing system and overcome producer objections to supply control devices, per se.

PROPOSED STANDARDS FOR MANUFACTURING MILK

Edward Small
Agricultural Marketing Service
U.S. Department of Agriculture

There is growing realization that we may be approaching "high noon" in our efforts and needs to improve and standardize the quality of milk used for manufacturing. The problems and the issues are not susceptible to quick and easy solutions; however, they are not insoluble and they cannot be left to stand unchallenged.

Essential Elements

The standards have been drafted in such a way that they could be met by the small as well as the large dairy farmer, with a minimum financial outlay. They provide for farm inspection and certification, as well as platform inspection of the raw milk supply and quality testing of the finished product.

Farm certification would not have to be completed before a producer would begin shipping manufacturing milk. However, it is intended that certification would be completed within 12 months from the adoption date of the standards. Farm certification would be the joint responsibility of dairy plant fieldmen and State regulatory inspectors. Only a regulatory inspector would have authority to withhold farm certification for failure to meet prescribed requirements.

Before a new buyer could accept milk from a transfer producer he would be required to obtain the producer's record from the previous buyer. If the record is satisfactory he may accept the milk from such producer. If such record is not available it would be necessary for the new buyer to make a farm inspection to confirm or establish farm certification status. In addition, he would be required to conduct bacteriological and sediment tests on the producer's first delivery of milk.

With respect to the bacterial standards, the proposed basic class requires a methylene blue reduction time — or its equivalent — of not less than 2-1/2 hours. At present there are at least seven States that have bacterial limits for milk for manufacturing that are basically comparable to, or more rigid than, the 2-1/2-hour standard. These States are California, Iowa, Minnesota, Oregon, Virginia, Wisconsin, and Wyoming. The Sanitary Standards of the American Dry Milk Institute and the Evaporated Milk Association likewise specify a methylene blue reduction time of not less than 2-1/2 hours for their basic class.

Supervision of the Program

The regulatory agency of the producing State would have responsibility for supervision of the program. Its representatives would, among other responsibilities, inspect the milk at each plant to determine whether it is being graded and tested in accordance with established procedures, and make periodic farm inspections to determine that the fieldmen are making proper farm inspections and reports.

Clarification — Better Understanding

When the third working draft of the proposed standards was distributed in the summer and early fall of 1959, some confusion seemed to prevail. This was based on a misunderstanding of what was intended under the program. Since that time, we have had many opportunities through correspondence, meetings and personal discussions to explain and clarify the program to industry and other interested parties. As a result, much of the unfavorable reaction has dissipated, and a much better understanding exists today.

Some regulatory officials and industry representatives expressed the fear that the U. S. Department of Agriculture intends, through the proposed standards, to impose its will on the States and to administer and enforce the program at the State level. This never has been contemplated, and, in fact, is not legally possible. The proposed standards are intended for voluntary adoption by the States. Whether an individual State adopts them and when, is left entirely to the State's own discretion. The administration and enforcement of the program, once adopted, also would be entirely up to the State.

Proposed Revision

We have studied and analyzed the various suggestions and viewpoints received during the past 2 years and consequently have made many changes in the fourth draft of the proposed standards. Several changes, for example, have emerged:

1. The title has been changed from "Recommended Quality Requirements for Milk to be Used for the Manufacture of Dairy Products," to "Recommended Quality Standards for Milk for Manufacturing Purposes." The intent of the standards is to cover all plants that receive manufacturing grade milk.

2. The requirements for organoleptic examination of the raw milk have been clarified.

3. The bacterial limit for No. 1 milk would be increased from 200,000 to 500,000 per ml., standard plate or direct microscopic clump count, or from 5-1/2-hour methylene blue to 4-1/2-hour methylene blue, or its equivalent to resazurin reduction time. This change is recommended since the quality standards we are considering relate to manufacturing grade milk and not grade A. Furthermore, the standard of 200,000 for grade A is a log average of the last four samples, whereas, the 200,000 standard as proposed in 1959, was based on a single determination. The 500,000 count without tolerance is not significantly different from the 200,000 log average which is now accepted for grade A.

4. Provision has been made for specific sediment content classification for farm bulk tank milk based on the reduced filtering area. Preliminary work has been completed in developing photographic standards.

5. Limitation of farm certification report only to health of the herd and design, construction, care, and condition of utensils and equipment.

6. Clarification of requirements for "new" producers.

7. Deletion of the appended material.

The fourth draft of the standards was recently reviewed by the regulatory agencies of the State departments of agriculture. A committee composed principally of State dairy control officials met with us two weeks ago to review the comments of the proposed standards. As a result of these deliberations, appropriate modifications will be made and a revised draft of the standards will be distributed, in the near future, to industry, colleges, farm organizations, and other interested persons for further comments and suggestions.

Conclusion

The program we are attempting to develop for voluntary adoption by the States, with practical application, would enhance the confidence of the producer and the consumer. It would help bring about informed producers, and would thus overcome the present situation where too many times when poor quality milk is received at the plant the producer is not notified, and consequently no steps are taken to ferret out the contributing causes. Unless this is done the producer has a right to feel that he is producing and delivering milk of the quality that plant management wants or needs. It is not only important that we be counted as standing for good quality, but it is equally important that we actively stand against poor quality.

Milk quality improvement requires a combination of three essential ingredients:

1. A realistic blueprint of quality standards for raw milk — one that is not too rigid and at the same time would upgrade the general level of quality.

2. Adequate and efficient enforcement. The most effective enforcement program is realized when coupled with a service and educational program.

3. Industry cooperation. Unless industry has the right attitude and adequately supports the program, the best set of standards and enforcement will fall far short of the desired goal.

When adopted, the quality improvement program for manufacturing grade milk as proposed, may be looked upon as the beginning of a long and difficult struggle and would then emerge in the most hopeful posture it has ever consumed.

WISCONSIN'S EXPERIENCE WITH STATE STANDARDS FOR MANUFACTURING MILK

Evert Wallenfeldt
University of Wisconsin

Experience indicates that (1) favorable public opinion supporting quality improvement, (2) effective industry quality programs, and (3) effective regulatory enforcement programs are essential for consistent success with statewide quality improvement programs.

Favorable Public Opinion and Comprehensive Concepts of Quality

The need for this applies to all groups concerned, farmers, dairy industry personnel, and other leaders. All need to have a comprehensive concept of the meaning of quality in dairy products. Some of the items involved in such a concept are:

1. Safety and wholesomeness of the product
2. Good flavor
3. Good appearance
4. Good keeping quality
5. Good bacteria tests
6. Sanitary production and handling from "the cow to the consumer"
7. Freedom from any adulteration such as antibiotics and extraneous matter
8. Satisfactory composition
9. Freedom from colostrum

This list of attributes may be quite incomplete, but it illustrates the problem. Experience has shown that without the development and maintenance of favorable public opinion, consistently effective quality programs will not be maintained on a statewide basis. This is essential for both effective industry quality programs and consistently effective regulatory enforcement.

Effective Industry Quality Control Programs by all Members of the Industry

Experience has proven that consistently high quality is not likely to be attained without effective individual plant quality programs. The following features of such plant programs have been found to be important.

1. Quality-conscious management dedicated to quality improvement.
2. Good plant sanitation practices and good plant housekeeping.
3. Rigid inspection of every can and tank of milk or cream and refusal to buy that which is unfit.
4. Good quality tests made frequently of all milk and cream received.
5. Good records of defects found by intake inspection quality tests and records of production conditions found by fieldmen.
6. Effective field work by well-qualified fieldmen.
7. Effective washing and sanitizing of all cans and transport tanks; daily inspection of cleaning and sanitizing procedures for cans and tanks.
8. Providing suitable sanitation equipment and supplies for patrons at reasonable cost to patrons.
9. Payment to producers for milk on a quality basis.
10. Organized quality programs with haulers.
11. Programs to aid producers with permanent quality facilities, such as improvement of milkhouses, cowyards and cowbarns.
12. Good public relations program for the general public, producers, plant employees, regulatory agencies, educational agencies, industry associations and cooperation with all groups working on quality improvement.
13. Program to help guide the producer of insanitary milk away from dairying into other lines of work.

Effective Regulatory Program

After more than 10 years of intensive educational work on quality, a set of regulations or a code of quality conduct was developed and legally put into effect in Wisconsin. For educational purposes this code was called "minimum standards." All groups involved in milk production and processing were held responsible for quality.

a. Producers were held responsible for quality of the product they sell.

b. Haulers were held responsible for knowingly delivering insanitary milk or cream and for knowingly hauling any previously rejected milk or cream to any plant for use as human food.

c. Plant operators were held responsible for determining the quality of all milk and cream purchased.

(1) Inspection of every can of milk and cream by sight and smell and rejection of all unfit milk and cream.

(2) Running quality tests of the milk from all patrons, bacteriological and sediment tests at least twice each month and more frequently where the milk is of undergrade quality.

(3) Plants were required to have farm inspections made of all patron's farms at least once a year and reinspections within thirty days where the major items were not in compliance.

(4) Plants were required to keep complete quality records of the milk and production conditions of all patrons.

(5) Plants were required to report quality tests to patrons. All milk which decolorized within 5-1/2 hours on the methylene blue test or was of equivalent bacterial quality by other approved bacteriological tests was required to be reported as number 2. That is, unless it decolorized within 2-1/2 hours or was of equivalent poor quality by other approved bacteriological tests. In this latter case, it was required to be recorded and reported as undergrade and corrections made at once.

(6) Plants were required to discontinue buying milk from a producer of unfit milk and cream. Refusal to buy was mandatory for any of the following conditions:-

(a) Where a patron's milk had undergrade bacteria tests for four weeks in succession.

(b) If any part of the patron's milk or cream was found to be number 3 or poorer on sediment for six days in succession.

(c) If any part of the producer's milk or cream had been rejected for four consecutive days because of off-flavor, odor, or other abnormal conditions.

(d) If the patron refused to correct unsatisfactory conditions at the farm after they have been called to his attention twice on an inspection report, provided that where the correction required some major expense, a reasonable length of time could be granted to complete such improvement.

(e) If the producer refused to allow inspection of his dairy premises.

(f) Every plant was required to report the names of any shut-off patrons to the State Department of Agriculture within 12 hours after refusing to buy milk or cream from such patrons.

(g) No dairy plant could lawfully accept milk or cream from any shut-off patron until authorization had been granted in writing by the State Department of Agriculture.

(h) No dairy plant could lawfully buy the milk from a new patron without first having a copy of that patron's quality record for the past three months at his previous plant. The plant previously buying the milk or cream was required to supply the patron with a copy of such record within 24 hours after the patron asked for it.

d. The State Department was responsible for "spot checking" both producers and plants to determine compliance in accordance with the regulations.

The producer section required farm inspection of the dairy premises of all patrons of each plant at least once each year and reinspections within 30 days where major sanitation items were in noncompliance. The standards required that only milk from clean healthy cows milked in a sanitary way could be offered for sale. Only clean healthy persons were permitted to milk the cows or handle the milk or milk utensils. Minimum construction and sanitation methods were specified for the barn, toilet, water supply, milk utensils and milking equipment, utensil and milk equipment cleaning, utensil storage, cooling, and a milkhouse meeting minimum specifications was required for the production of all milk to be sold for any human food use.

Changes Effective, January 1, 1961

The standards were rewritten by the State Department of Agriculture attorneys and submitted at public hearings during the latter part of 1960 to become effective January 1, 1961.

The most important changes are the following:

30.02 Farm Inspection

In addition to the old requirement of periodic inspection by every plant operator, the new amendment makes farm inspection mandatory before receiving milk from any new producer and requires posting of the inspection sheet in a conspicuous place in the milkhouse.

30.03(3)(b) Loose Cow Housing

A new sub-section gives more specific specifications on loose cow housing. For example, it requires a bedded area of at least 75 square feet per cow.

30.03 (11) Cooling

The new cooling section specifically requires that all milk must be cooled to 60° F. or lower immediately after milking unless it is delivered to the plant within 2 hours after milking. The old section did not have a specific temperature requirement.

30.03 (12) Milkhouse

Requirements are now given specifically for bulk milk operations in addition to the requirements for handling milk in cans.

30.07 Bacteriological and Sediment Testing

The mandatory frequency for testing of the milk from all patrons was changed from at least twice monthly to at least once monthly. There has been considerable objection to this change on the part of industry groups and some industry leaders have just recently recommended changing this back to at least twice monthly.

30.08 Notice and Rejection

The time which a producer has for correcting "undergrade" bacteriological milk before loss of his market is reduced as illustrated by the following from section 30.08 (2)(a):- "If the milk or cream of any producer is found to be of undergrade sanitary quality on 3 consecutive bacteriological tests conducted at intervals of not more than 5 days, the plant operator shall reject future deliveries of milk or cream from such producer until a bacteriological test discloses that his milk or cream is of sanitary quality; provided, if an inspection of his farm by the plant operator discloses no insanitary condition, the next delivery may be accepted before such producer's milk or cream is rejected as required herein."

30.10 Records and Reports

The old requirement that every producer changing markets must supply the new buyer with a quality record before he could sell his milk has been changed somewhat. If the new buyer makes a bacteriological test and finds it satisfactory before he accepts any milk from a new patron, he can legally accept the milk without a quality record. In actual operation it is not practical to hold a producer's milk until results of a bacteriological test are available before acceptance. Consequently, rigid enforcement of this section would mean insistence on a quality record before acceptance.

The Wisconsin Dairy Federation has objected to the change in the mandatory quality record transfer requirement and has requested that the standards be amended to require that the quality records of all starting and discontinuing patrons be reported to the Department by all dairy plant operators.

Summary

The fact the industry (through the Wisconsin Dairy Federation) has requested even more rigid standards and the most effective enforcement practical is evidence of the industry's acceptance of these regulations.

Wisconsin's experience certainly shows the soundness of the original Wisconsin "Minimum Milk Production Standards" and I would recommend consideration of them or other similar standards by any State seeking more effective improvement of its milk supply for manufactured dairy products.

QUALITY IMPROVEMENT IN TRANSITION FROM FARM-SEPARATED CREAM TO WHOLE MILK

Roger Holkesvik
North Dakota Department of Agriculture and Labor

Until 1959, less than 10 percent of the total milk production in North Dakota was marketed as whole milk. Today, about 50 percent of our total production is marketed as whole milk; well over 80 percent of this being used for manufacturing purposes.

Since early 1959, when only two plants were involved in manufacturing milk purchases, 1/3 of our plants have incorporated whole milk purchasing into their operation, and 9 plants from outside our State boundaries are soliciting our producers for whole milk. Eight cheese factories have begun operations in North Dakota since 1959, and about 15 communities are seriously considering erection of new cheese plants.

Making cheese is a completely new operation in North Dakota. There are several factors which stimulated this new enterprise. First, consolidation of cheese plants in other States put many cheesemakers out of work and they had to look elsewhere for employment. Second, the cheese market was very favorable in 1959-60. Third, there is a great interest in bringing industry into North Dakota and communities are often willing to invest capital and give other considerations to new enterprises.

During 1959, some merry competition started in buying whole milk for manufacturing purposes. Some of these plants were probably as interested in selling equipment, particularly farm bulk tanks, as they were in procuring milk since it was not unusual to give plant managers a bonus or commission on equipment sold. In their zeal to capitalize on this "side income," frequently little consideration was given to quality, particularly when it came to selling a farm bulk tank, which was often installed any place in the farmyard where enough room could be found to accommodate it. The general impression given to many producers by these "salesmen" was that there were not and never would be any regulations relative to selling manufacturing milk and that their dairies would never be subjected to inspections by any agency.

William J. Murphy, North Dakota State Dairy Commissioner, anticipating problems in the quality of some of this milk, drafted regulations pertaining to the installation of farm bulk tanks, and the handling, storing, and transportation of this milk. By early 1960, it became obvious that operation of whole milk for manufacturing purposes were mushrooming, and Mr. Murphy revised the regulations to include the marketing of whole milk for manufacturing purposes in conventional can pick-up.

These regulations include requirements for a satisfactory milking barn or parlor, a suitable milkhouse, proper equipment for handling, storing, and transporting milk, adequate facilities for cleaning and sanitizing equipment and utensils, a safe water supply, adequate sewage disposal, clean premises, and the practice of proper milking methods.

Enforcement of these regulations was a touchy problem. We did not want to stifle this new marketing procedure, which would undoubtedly improve overall quality, yet we did want to require certain minimum production standards to assure a high quality product. Most of these new milk producers had been selling farm separated cream for years and were not familiar with the additional care and expense necessary to produce a top quality whole milk.

Milk, naturally, must be sweet when it is sold. Cream, on the other hand, can be sold as sour cream. About 40 percent of North Dakota's cream is bought as sour cream during the winter; during the summer this percentage soars to about 75 percent. From these percentages, it could be expected that the majority of the producers were not particularly conscious of bacterial quality. Their concept of good quality was usually associated with physically clean cream. This concept was certainly fortified by the lamentable fact that the price differential between sweet and sour cream is usually only a couple of cents on a pound of butterfat. Bacteria which caused souring were generally accepted as being of little more importance than a nuisance to dairymen. Therefore, these producers had to become acquainted with these "little bugs" and regard them as an adversary which must and could be contained.

Another factor which had to be considered in designing this program was in the field of economics. This was a new marketing procedure in North Dakota and this procedure had no precedence. Therefore, it was questionable at the beginning whether or not this operation would prove to be economical to the producer. Consequently, it was reasonable to allow the producer to try out this marketing method before investing too much capital.

Permeating this entire program was question of public opinion which can make or break anybody or anything. Many local people had invested capital in these new enterprises. It was bringing a new industry and employment into the locality and, at least theoretically, more wealth. If a quality program were interpreted by the public to be a detriment to this new operation, it would undoubtedly be regarded as an enemy to economic society and find itself relegated to the garbage heap. Quality has to be sold.

In approaching this problem, we arbitrarily divided our program into three phases. First, a survey was needed to determine just what the conditions were and how much improvement was needed. Second, we could take up the business of selling this program. Third, after the groundwork had been established during the first and second phases, we could go ahead and enforce sanitation and quality standards.

The survey was completed in about 6 months. Department fieldmen visited each farm in the State which was selling or was interested in selling whole milk for manufacturing purposes. A special report form was used during this survey so that we would be able to get an overall picture of the conditions of the farms. After analyzing these reports, it was obvious that the average farm was not prepared to produce a good quality product. Some of the results of this survey showed that: 40 percent of the barns did not have any cement in the floor, 70 percent were not clean, 20 percent were inadequately drained, a whopping 97-1/2 percent were not painted or whitewashed, 25 percent were deficient in lighting, and 80 percent were not ventilated sufficiently. Seventy percent of the milkhouses were unpainted on the inside, 70 percent were not clean, 65 percent were in generally poor physical condition, and 93 percent were inadequately ventilated. Of these farms 65 percent did not have any hot water facilities; 40 percent had milkstone in their inflations and 50 percent in the milking buckets. On 80 percent of these farms, washing was not done properly and sanitizers were not used or used improperly on 70 percent of them. Cowyards were found to be unsatisfactory on 75 percent of the farms.

The second phase, where our objective was to sell this program, was carried out by making several visits to each farm and spending considerable time, if necessary, with each producer to point out the merits of quality and explain what would be expected of him if he planned to continue selling whole milk. It was emphasized that he would be given reasonable time to complete the improvements and that the State Dairy Department would help him in any way it could.

During this phase, sediment tests, temperatures, and grading were done at several plants to determine the quality of milk when received. During the summer, we found that between 10 and 15 percent of the milk being received was sour, contained excessive sediment, or was off-flavor and had to be rejected. Although we had hoped for a lower percentage of reject milk, this was still a considerable improvement over farm separated cream of which 75 percent was bought as sour during this time. By next summer, we hope that this percentage can be reduced below 5 percent.

The third phase of this program is of a regulatory nature. We issue requirement orders to a producer giving him a specified date before which certain itemized improvements must be completed or he must discontinue selling whole milk. We discontinued using the report sheet which had been composed for the survey, and used the grade A inspection sheet of the U. S. Public Health Service. We believe that this inspection form gives considerable information to the producer as well as to the regulatory agency. It will also allow us to grade all dairy farms on a comparable basis.

By the time we get to this phase of the program, at least two visits have been made to each farm and a period of about 6 months have elapsed. We believe that this is ample time to give the producer a chance to try selling whole milk and he should either start making necessary improvements or give up selling whole milk. Actually, we are just getting into this phase and, to date, only 2 farms have been ordered to discontinue selling milk. There are, however, many requirement orders now being processed.

We expect this third phase to take about 1 year. At the end of this time, we expect to have all farms selling whole milk for manufacturing purposes in a condition to assure a top quality milk. Beside farm inspections and visits, we will begin periodic testing at receiving plants for sediment, temperature, bacteria (reduction tests and direct microscopic examination), and flavor. By this time, there will be enough precedent in North Dakota for selling whole milk for manufacturing purposes that we can require certain minimum standards before a farm can begin selling whole milk.

We feel that there must be top quality in dairy foods. In obtaining this quality, we must insist on certain minimum standards and periodic testing of both the raw and finished products. We must establish an image in the public mind that dairy foods are synonymous with wholesomeness, richness, and integrity. To accomplish this, we must produce a product which is precisely what that public image is.

THE TOOLS OF PUBLIC RELATIONS — THEIR USE AND ABUSE

Robert E. Best
The Moultrie County News

Public relations is nothing more than gaining public appreciation or recognition for a good job that is being done, to repeat one of the more popular and reasonably accurate definitions of the term. For purposes of our discussion, we are going to assume that the American dairy farmer is doing a superlative job. But is the dairyman getting public appreciation or recognition for the good job that he is doing? No. The public is either unaware or uninterested in what the dairy farmer is doing. And, as I said, no one is doing anything about it. This leads to the question of what should be done and its corollaries of who and how.

There can be only one answer to the first question. Dairy farmers themselves must do their own public relations job. Too long we have seen manufacturers and retailers stick a few straws in their hair and speak for the dairy farmer. However, too often what comes out as a dairy farmer's opinion and fact is far from the best interest of the dairy farmers.

One concrete example of this was when several farmer groups and the milk dealers were having a price hearing in one of our Northeastern States. The dealers presented their side of the case in the full presence of the press. Then came a slight pause before the farmers' side of the case was heard.

A smart public relations man for the dealers took advantage of this break to invite the press out to "explain" what was going on in the hearing. This explaining, by some coincidence, took up the time when the farmers' side of the question was being presented — a side of the question quite far from the dealers' side. But what appeared in the papers the next morning? You guessed it: "Farmers want higher milk prices." Who had asked for the increase? The dealers. This is just one example of what happens when you let someone else speak for you.

The national farm organizations can't do the job either. Their membership is too broad to allow them to go to bat for the dairy farmer. How can you take a cotton or corn grower's money and spend it to beef up the dairyman? This is especially true when the bulk of your membership is from the corn and cotton areas.

Not that the general farm organizations can't be a big help. One of the biggest challenges before them is creating a new public image for modern agriculture. In this creation of a new image the dairy farmer certainly has a place, but this concentrated industry can afford, and needs, a program rifled home rather than a broad scale shotgun approach.

Government, either State or Federal, can't do the job either. There are too many outside pressures from lobbyists, legislators, and rival commodity groups to allow creation of an adequate budget or program. State government is especially important because of the geographic limitations when the problem is several States in scope.

Why are we in this public relations mess? We used to be in very good public favor. One reason is that our society has changed. It used to be that cities were made of people who had left the farm to seek a fortune. But now our farm population is down so far that those people in the city with a farm background within two or three generations are relatively rare.

I believe that a few minutes ago I either said or implied the word MONEY. You can't run a public relations program without it. So what can we expect from our money? Not increased sales of dairy products — that's a merchandising and advertising project. Not decreased competition — if dairy farming gets a better public image, competition will probably increase both from within and from without. What we have to gain is peace of mind and public stature that goes with the public knowledge that you are a vital part of the community, going that extra mile to give outstanding public service.

There are times when this public confidence can be translated into dollars and cents. For example, the price of milk in relation to the consumer price index, should be much higher. In a better climate of public understanding we probably could ask for and get that better price.

The presence of four or five dairy farmer groups in one market, each claiming to be the authority on the subject has led to more public confusion, misinterpretation, and a pox-on-both-your-houses attitude from the news media than any other single thing.

The tools of public relations are the tools of communication — the spoken and written word. From the practical standpoint, we can further divide this spoken and written word into paid and free. I'm afraid — and a three-inch pile on my desk every morning proves it — that a fantastic number of people depend on free space. You call these grabs at free space and free time, news releases. This three-inch pile is composed of releases, all right, but in 99 out of 100 releases there is precious little news. You soon develop a blase attitude toward the whole pile, which ranges from antivivisectionist literature to plaudits for the latest chrome added to recent automobile models.

A second thing that tends to lessen the effect of the news release is that it is frequently used to separate the ads on page 36.

Most organizations actively engaged in public relations programs for dairymen know this. They are basing their program on paid advertising using newspapers, outdoor advertising, radio, and television.

But you should see the way that some of them are directing this media. Not toward the city folks who have to understand the dairy farmer's problems, but toward the dairy farmers themselves!

Read the membership magazines of any of the dairy groups. Story after story about how Sam Jones and Joe Smith are doing a fine job in the business of dairy farming. This is great stuff, but why is no effort made to get these success stories into metropolitan media where it will do a better job for all dairy farmers?

One reason might be money. To get first class public relations counsel, you are going to have to pay a man more than you pay a man to clean the barn.

One dairy farmer organization is doing a tremendous job in developing a public relations program. The hard core of the program is a series of ads in major Michigan daily papers. These ads tell how and why the dairy farmer is important to everybody in Michigan.

These are done professionally and are scheduled well ahead of time. They run whether there are specific problems in the area or not. They do not attempt to sell any dairy product — another program is in effect to do that job. All they sell is the importance of the dairy farmer. They are imaginative and should show a high reader impact rating if any follow-up testing is done.

Another key in public relations is testing. This is nothing new to the dairy industry. But do we have any concrete evidence of what people's opinions are toward us? Have we ever done any opinion testing? Have we ever attempted to measure any changes in public attitude?

The American Dairy Association has done some work in this field, and I should imagine that some of the colleges and universities have done a little research too. But the information is not immediately available to all users. And I'd venture to guess that all the money spent in opinion research would not put a dent in the funds spent to perfect the tried and true Babcock test for butterfat.

This is just how basic our opinion measuring needs are. Just as every dairy farmer knows from observation that a considerable amount of butterfat is present, so we know there is a public relations problem.

We must find how much. Then we can start to apply those proven techniques which will lessen the problem.

Here also would be a good opportunity to bring out that public relations today is too involved to place in the hands of an old, likable, and trusted employee "that everybody likes." Get a professional, the best professional in the business, who has studied public relations in all its aspects. This man will be familiar with the tools and their correct use. If he's a pro, he won't let them be abused.

Perhaps I have painted the dairy farmer public relations picture too black. But I've seen public relations used as a cover-up for merchandising gimmicks; I've seen sadly misdirected efforts; I've seen energies expended by one group of dairy farmers to blacken the name of other dairy farmers; I've seen dairy farmers duped and used as cats'-paws; I've seen the whole problem ignored; I've seen apathy; and I've seen the beginnings of some good, sound work. There is much that can and should be done.

As for you marketing men, please remember this: the public relations program of your organization is not to help sell your product. It is to give you a better climate in which you can sell the product.

WHY WE THINK PUBLIC RELATIONS ARE IMPORTANT TO THE DAIRYMAN AND WHAT WE ARE DOING IN THIS FIELD

Jack W. Barnes
Michigan Milk Producers Association

Why we think public relations are important to the dairymen and what we are doing in this field. The description of this topic on the program asks several questions.

Does the dairy industry have public relations problem? If so, how has it come about and what is its significance?

Until recently there seemed to be a need to ask the first question. For years practically everyone in agriculture has been talking about the poor public relations image we have.

Lately, we have encountered a few people within the dairy industry who believe that any special public relations activity is a waste of time and money, for the simple reason that agricultural public relations really aren't so bad. Based on a survey of one sort or another, they take the position that the consumer doesn't really know much about Government subsidies or farm programs and she isn't mad at the farmer, so why worry.

Now whether or not this public relations problem relates directly to subsidies or farm programs or food prices is immaterial. The important point is that the general image of the farmer and of agriculture as created by our public press is inaccurate and confused. There is a growing tendency to picture the farmer on one hand as a man who is getting rich on doing nothing and on the other hand as an innocent incompetent who cannot get along without a handout from the Government.

The fact that neither picture is correct is not only irritating to farmers and to those of us who work with or for farmers, but it can also be damaging in a practical way. I think we can safely assume that we are unlikely to reach any satisfactory solution to the farm problem as long as these attitudes exist. Even assuming that there is no particularly serious public relations problem now, it would not seem the best course of action to wait until there is before we begin to put our story before the public. There is a public relations axiom that attitudes are more easily created than they are changed. If the distorted image of farmers become firmly entrenched in the public's mind, and I have no doubt that it will if the present bad press continues, it will become not only easy, but indeed popular for our legislators to ignore or reject programs that would restore agriculture to a sound position.

When we get into the causes for the present public relations image of agriculture, the waters become quite muddy. Certainly subsidies, surpluses, and farm programs in general have been at least partially responsible. I think part of the cause also is the shift from an agrarian economy to an industrial economy that this country has gone through so rapidly in the past two or three decades. Fewer and fewer people have any ties with the farm. They know little or nothing about present day farmers, and are susceptible to almost anything that is told them about farming. I think it is only natural that they are most receptive to that type of information which implies a bit of scandal or graft.

Then, too, we are dealing with food, something the consumer is constantly aware of, particularly from a price standpoint. The fact that other things the consumer must buy have gone up in cost far more than food seems to be forgotten. This, too, is probably normal. We don't buy a refrigerator or a washing machine or a new suit of clothes or a new car everyday or every week, but we do buy food at least every week. We come to think of the cost of food as one of the biggest drains on our budget.

Our approach to this problem is based on the simple assumption that what the consumer does not know about agriculture is hurting us. Our whole program is intended to state simply and accurately a few facts which we hope will create a more accurate picture of farmers and farming and make the American public more aware of the real contributions of farmers to a vigorous economy.

Also an assumption that agriculture itself is in need of better espirit de corps. For the pride of farmers is not a small item. Farmers have perhaps been more influenced by bad publicity than the public itself. Agriculture has nothing to be ashamed of, and a great deal it can be proud of. We need to re-instill that feeling of pride in farmers.

We are not trying to get sympathy for the farmer. We are not trying to tell people how long or how hard he has to work, or how little he gets out of the price of a quart of milk. Neither are we trying to justify subsidies or make the consumer feel that the farmer is entitled to any special favors from the Government or taxpayers.

We are trying to get across the point that the agricultural productivity of this Nation is a blessing, not a burden!

What we are trying to do is to tell the public what is perhaps the most outstanding success story in the history of the world. The rest of the world seems to be deeply impressed with the fact that only 8 percent of our population can provide more than enough food for all our people. But when we come to people in this Nation, we run into the attitude that it is shameful to produce as much as we do.

During the past year and a half, Michigan Milk Producers Association spent about $40,000 on special public relations advertising to tell the people in Michigan what agriculture productivity means to them. Last year we sponsored over 1,000 radio and television commercials and ran large size ads in 23 of the major daily newspapers throughout the State.

The reaction to this program, we feel, was very good. To be sure, we did not correct all the misconceptions that exist about agriculture, nor do we expect that we would ever be able to achieve this goal. We do not view our public relations advertising as a super-duper crash program that will in the space of a few short months have everyone singing the praises of the American farmer. Rather, we consider this program as a part of our everyday activities and services to the members of our organization. We sincerely hope that if we and other farm organizations continue these efforts on a regular basis we can establish the American farmer as a solid contributing citizen to our economy.

FRUITS AND VEGETABLES

FEDERAL MARKETING AGREEMENTS AND ORDERS

Minard F. Miller
Agricultural Marketing Service
U.S. Department of Agriculture

Congress authorized Federal marketing orders as a means to promote orderly marketing, to stabilize prices, and improve returns to producers. Over the past 25 years, numerous Federal orders have been set up in the fruit and vegetable industry in just about all sections of the country. A few of these programs have lived through 20 years or more, and over the years many programs have been modified as conditions changed, old methods discarded, new ideas adopted. Presently there are 43 fruit and vegetable orders in existence. The amended Act of 1961 was extended to cover any agricultural commodity other than certain specified items.

While there has been some change in emphasis, the central purpose of marketing orders is still what it always has been, to advance the interests of producers. Marketing orders, in fact, are really an advanced stage of cooperative marketing in at least one sense of that term, for they devise and establish certain principles of marketing for an entire industry, with the full advice and consent of that industry. Marketing orders furnish a mechanism through which producers and handlers and all members of an industry can pull together working for a common good. A marketing order is really an industry-Government partnership, with the two elements working together to accomplish what neither can do separately.

Each, however, has its obligations and responsibilities. The industry must seek the greatest good, the best results for the producers involved. The Government must be a referee to see that the rules of fair play are enforced, that the public interest is protected.

Method and Approach

Marketing orders are designed to bring about more orderly marketing. This is accomplished, for fresh fruits and vegetables, by a system of regulation of shipments. Such regulation may be aimed at segregating and improving the grade, size, quality, or maturity of the product marketed; it may take the form of regulating the quantity of the product that may be marketed periodically, or for the season as a whole; it may establish a system of surplus pools; it may provide grading and inspection requirements; and it may deal with unfair trade practices.

I believe there can be no successful industry program without industry participation. Federal marketing orders for fruits and vegetables are administered through operating committees comprised of persons selected by growers and handlers in the industry affected. Much of the success of marketing orders depends upon local administration, upon farmer participation and responsibility, including frequent meeting of producers and handlers.

Most Federal marketing orders for fruits and vegetables cover a limited area. Clearly, the advantages of local initiative and responsibility are much easier to come by under orders that do not cover a wide territory. There is no substitute for participation by farmers and local handlers to give meaning to the idea of "regulation by those regulated."

Limitations

There are many things that Federal marketing orders are not able to do; were not designed to do; and not permitted to do. One of the difficulties with operating Federal marketing orders is that sometimes the people involved expect too much and too soon.

Federal marketing orders do not change the laws of supply and demand. Methods may be devised to affect the supply or influence the demand, but the basic economic principles still prevail. The Federal statute provides no authority to fix prices; neither is there any authority to control production. This statute is concerned entirely with marketing, and with advancing the interests of producers through a system of orderly marketing. The statute, with minor exceptions, does not permit the regulation of fruits or vegetables for canning or freezing.

We emphasize to everyone interested in Federal marketing orders, that the program does not regulate just the other fellow. The programs are industrywide; they must include all or none, and the rules apply equally to everyone. Moreover, the operation of Federal marketing orders does not cost a lot of public money. The supervisory costs are borne by the Federal Government, but the bulk of the cost — that of local administration — is borne by the industry.

Enforcement of the terms and conditions of the agreement and order primarily is the responsibility of the Department of Agriculture. However, it is the duty of the administrative committee to investigate and report complaints of violations. These reports of violations are referred to the Department of Justice for prosecution. The Department of Justice may institute civil action to obtain an injunction of further violation of the Order, it may bring criminal action against a violator and if the person is convicted he may be fined not less than $50 nor more than $500 for each offense; and it may file a civil suit to obtain damages from a person who violated the order. Under the latter action, if convicted, damages in the amount of the value of the product shipped in violation may be levied.

Safeguards

Federal marketing orders cannot be issued without the approval of producers. To issue a marketing order, the Secretary of Agriculture must determine that it is favored by at least two-thirds of the producers. If two-thirds of the producers who vote in a referendum indicate their approval, we believe there is basis for issuing the marketing order.

In working with Federal marketing orders, some people may become critical with the amount of procedure and rules involved. Regulations under marketing orders are, in fact, law; therefore, the rights and privileges of all parties must be respected. The statute requires public hearings, to provide a firm basis for issuing the order. Time is required to draft a program, conduct hearings, prepare decisions, permit filing of exceptions, conduct a referendum, and take care of all the procedural requirements prescribed by Congress.

Problems

Most producers know little about marketing orders. Therefore, one of the first jobs in effectively using Federal marketing orders is to get producers to identify their problem, and to inspire the unified and cooperative attitude or approach necessary to meet it.

The people who work hard to develop a marketing order sometimes expect too much. Producers in general, whether they be for or against the program, have a tendency to expect the most and are not satisfied with less. But Federal marketing orders are no more than a device for an industrywide application of certain economic marketing principles.

From time to time a number of ideas have been advanced on types of activity which it is alleged should be incorporated in the Federal marketing agreement statute. It has been urged that the probihition against the use of marketing orders for fruits and vegetables for canning and freezing should be removed. There are, of course, arguments on both sides of these questions.

The question of advertising and promotion is being discussed in many agricultural industries. The Federal marketing agreement statute does not authorize the collection of funds for advertising and trade promotion. Many fruit and vegetable industries, particularly in California, have adopted State programs which include authority for advertising and promotional activity. A few other States, including the State of Georgia, have also followed this practice. State commissions have been established in may States to deal with the question of advertising.

Since the 1954 amendments to the Federal marketing agreement act, there has been increased interest in import control. Under these amendments, the statute provides that certain regulations for specified commodities must be made applicable to imports if they are effective upon the domestic industry. Several proposals have been made in the Congress to expand this type of import control.

The statute now authorizes the regulation of exports along with domestic commerce. This authorization has been used in several marketing orders which regulate products shipped in export channels of trade.

There has been widespread interest in finding ways and means of increasing bargaining power among producers and producer groups. There have been a number of cooperating bargaining associations established in an effort to augment the selling strength of producers. These organizations have met with varying degrees of success. Some have grown and prospered; others have not. The big stumbling block in most producer bargaining organizations seems to be the difficulty of maintaining a cohesive, effective membership. The idea has been advanced that what is really needed is some authority such as contained in the referendum provisions of the Federal Agricultural Marketing Agreement Act; that is, if two-thirds of the producers approve a bargaining program, then all producers are obliged to participate. While this has certain appeal, we believe that any effort in the direction of incorporating bargaining authority under a Federal marketing order must be approached with caution. In any event, this type of activity needs more discussion among producers and producer groups before its actual operating techiques can be defined and its advantages and disadvantages fully understood.

It is evident to us that there is room for additional fruit and vegetable industries to take advantage of the marketing techiques or devices now available under the Federal Agricultural Marketing Agreement Act, and the various State programs available to producers and handlers. I am of the opinion that some of the reasons growers have not resorted to the use of these programs more than they have are: (1) The lack of understanding of the rather tedious procedure which the legislation requires in attaining such a program, (2) the fear that they may be giving up some of their rights and privileges to the Federal Government, and (3) because prices for these commodities range widely from season to season and during a single season, to the extent that growers' feelings vacilate between a high sense of security when prices are high and the feeling of insecurity and the need for cooperative action when prices are depressed. On the other hand, it may be well to state that accomplishments under marketing orders are relatively modest; that constant care and counseling are necessary to ensure that farmers' long-run interests remain uppermost. The ability and resourcefulness of producers and their organizations to recognize their marketing problems and successfully work together is the real limit on the use and effectiveness of marketing orders.

NEW PRODUCT DEVELOPMENT

R. H. Treadway
Agricultural Research Service
U.S. Department of Agriculture

All of us are well aware that farm prices, relative to the real value of the dollar, have been on the down grade for a long period while prices have increased on nearly every product and service the farmer buys. Large increases in the cost of labor, packaging, transportaion, and other factors have resulted in the farmer receiving a much lower fraction of the consumer's dollar than he received years ago. The problem of getting a larger part of the consumer's dollar back into the hands of the farmer is being attacked on many fronts. My assignment is to report what is being done in the development of new food products from fruits and vegetables and to relate these developments as much as possible to the overall problem of helping the farmer economically.

Widespread canning of fruits and vegetables has been with us many years. Frying thin potato slices to make potato chips is an old art but the chip industry has experienced its sensational growth only in the past 20 years. Sun drying of fruits in California is a long established industry. Dehydration of potatoes and other vegetables for military use represented a large industry during World War II, but quickly fell into near oblivion in the immediately succeeding years. Our large national capacity for freezing fruit and vegetable products has developed almost entirely since 1946. In the last 15 years we have seen: (1) Frozen orange juice concentrate take over most of the fresh orange demand; (2) frozen potato products, peas, green beans, lima beans, cauliflower, brussels sprouts, broccoli and other frozen vegetables invade much of the market for fresh vegetables; (3) dehydrated potatoes in mash and piece form assume importance in the potato utilization picture.

The objective of Utilization Research is to increase the demand for farm output through development of new food, feed, and industrial products made from agricultural raw materials and through improvement of the processes by which they are manufactured.

We do not necessarily say that processed fruits and vegetables are any better than fresh. In fact, a common objective in research is to bring the quality of processed food up to that of fresh. But trends in modern living demand that foods be easy to prepare. The type of food that is not available in a convenient processed form will lose ground to another replacement food that does offer this advantage. In the instance of several fruits and vegetables, it has been necessary to institute convenient processed forms in order that the commodity could even hold its own in competition.

Processed food stuffs do not always merely replace the use of freshly cooked food from the same commodity. While use of fresh vegetables has decreased, the popularity of processed vegetable products has raised the overall vegetable consumption per capita to a level about 15 percent greater than 50 years ago. Similar trends have occurred in the use of fruits. In 1910, the total use of fruits averaged about 175 pounds per person annually, with processed items contributing only about 20 pounds. Total use of fruits now stands at 200 pounds per capita annually with processed forms making up half of this total.

Potato Products

Let us focus attention first on potatoes since the growth in processing has been most spectacular in that commodity in recent years. Per capita consumption of potatoes fell from about 200 pounds annually in 1910, to less than 100 pounds a few years ago. The long decline in potato consumption was recently reversed to the extent that per capita consumption now stands at about 120 pounds annually. A great upsurge in potato processing occurred simultaneously with reversal in the per capita consumption curve. Twenty years ago, except for chip making, potato processing was negligible. Today about one pound of every three pounds of potatoes eaten is consumed in processed form. Surely the availability of an increasing number of frozen and dehydrated potato products of good quality has been an important factor in potato marketing.

Dehydrated mashed potatoes in flake form, developed at the Eastern Utilization Division, did not exist on the market prior to January 1958. Today there are 13 flake plants that process a total of 4.8 million hundredweights of potatoes to produce 60 million pounds of flakes annually.

Dehydrated mashed potatoes in powder form (granules) were first produced in the United States about 1947. Production reached the status of a heavy tonnage item beginning about 1955. Granules have been improved by laboratory and pilot plant research carried out by the Western Utilization Division in the last 10 years. Dehydrated potato dice and slices have been improved in quality and storage stability as the result of research in the Western Division and the industry. Better quality dehydrated slices led to their increased popularity in home cooking and to their use in formulating prepared mixes, such as au gratin and scalloped potatoes.

Potato flakelets comprise a new product of Eastern Division engineering research awaiting commercial exploitation. Flakelets are made by mixing partially dried mashed potatoes in sheet form, taken from a drum drier, with wet mash to produce a material that can be compacted and dried. The density of this product is much higher than that of flakes and almost as high as granules. Density of the product is important where space saving is needed.

Quickly reconstitutable dehydrated potato pieces make up another new product of the Eastern Division engineering research. The potato pieces are dehydrated to an intermediate stage, then placed in an autoclave, and heated to a temperature above the boiling point of water; the pressure is suddenly released to result in pieces that have a honeycomb structure. The puffed pieces are then quickly dried by convenient means to give a product that reconstitutes in about 5 minutes as against 25 to 30 minutes for ordinary dehydrated pieces.

The manifold developments in frozen potato products are largely the result of industrial research and development. Frozen potatoes are now available in virtually every form in which freshly cooked potatoes can be prepared.

Vegetable Products

In the field of vegetables other than potatoes, quickly reconstitutable dehydrated pieces have been prepared at the Eastern Division from carrots and other vegetables. Such dehydrated products have good color, flavor, and texture, and reconstitute rapidly.

Dehydrated sweetpotato flakes were recently developed at the Southern Utilization Division with the cooperation of the Eastern Division and the Food and Container Institute of the Quartermaster Corps. The sweetpotato industry needs a processing outlet in addition to canning and freezing. Sweetpotato flakes are now being seriously considered for commercial production at a location in North Carolina.

Eastern Division research has shown that a high quality frozen French fried product can be made from Eastern "dry-type" sweetpotatoes. Research has also demonstrated that tasty snacks can be made by the deep-fat frying of sweetpotato pieces, peas, lima beans, carrot slices, and parsnip slices.

Dehydrofrozen and Freeze-dried Products

Dehydrofreezing of fruits and vegetables, a process developed at the Western Division, has recently been brought to commercial fruition. In dehydrofreezing, about half of the water content is removed by dehydration; the product is then frozen and stored until time of use. Advantages of dehydrofrozen foods over completely dehydrated foods include better flavor, color, and texture. Dehydrofrozen foods offer the advantages of less weight, less storage space requirement, easier handling, and lower transportation costs than with conventionally frozen foods. Three million pounds of dehyrofrozen pimientos were produced last year for use in cheese products. Several million pounds of dehydrofrozen apple slices are processed annually for use in baking. Dehydrofrozen peas, carrots and potatoes are being manufactured to some extent for domestic and export markets. Dehydrofrozen tart cherries for pies are under consideration for commercial processing. Dehydrofrozen baby foods, including fruit products, have been successfully test-marketed.

Freeze-dried foods have become available in the last several months. The food is reduced to small piece form, frozen, and then dehydrated under reduced pressure by transfer of the moisture directly from the frozen food. Because freeze-drying is expensive, this type of processing will perhaps be confined to more valuable food stuffs, for example, meat and sea food. Mushrooms reportedly are being freeze-dried commercially and high quality products have been prepared from other vegetables.

Fruit Developments

Studies at the Eastern Division in cooperation with the Maryland Experiment Station have shown that apples harvested in the Cumberland-Shenandoah area of the east require additional ripening in storage for production of highest quality canned slices and sauce.

Cooperative studies between the USDA and State Experiment Stations have resulted in considerable progress in mechanical harvesting of red tart cherries. Use of power-driven tree shakers, fruit catching nets, and mechanical conveyors indicate that high product quality can be obtained along with 50 percent reduction in harvesting cost over hand picking.

Fruit juice concentrates with accompanying concentrated aromas (essences) are a Department development. With cooperation of a land-grant college, concentrates and essences from 7 fruits and berries have been evaluated as flavoring agents in ice cream and other frozen desserts.

Approximately 10 years ago the USDA announced a process for preparing super-concentrated (7-fold) apple juice possessing the aroma of fresh juice. Since then, concentrated juice and recovered essence have been prepared widely for use in the jelly industry. However, industry has never taken advantage of the potentiality of the concentrate as a beverage base. On dilution with six parts of water the concentrate yields juice that much more closely resembles fresh apple juice than does the conventional canned single strength juice.

Conclusion

From these examples you can readily see that the development of new products and processes in the fruit and vegetable field has been quite active in recent years. Results show that great strides can be made in this direction through the cooperative efforts of physical and biological scientists, food technologists, food engineers, agricultural economists, and agricultural marketing analysts.

WHAT THE PROCESSOR LOOKS FOR IN LOCATING PLANTS

Wayne C. Handwerk
Campbell Soup Company

The analysis necessary for the selection of a major plant location is not a matter of chance or circumstance. Rather, it is the result of careful planning and research plus a wholesome confidence in the future. Planning, at Campbell's, is serious business and is recognized as a continuous function of management. It necessarily involves the coordinated efforts of those engaged in product and agricultural research and development, marketing, quality control, procurement, production, and advanced engineering.

Our company is constantly reviewing population trends, geographical shifts in population, per capita consumption evaluations, and the addition of new products, as well as sales trends of the various products the company presently manufactures. If these trends indicate a need for a new production facility, the problem then is where the facility should be located.

After a particular section of the country has been selected for additional production, an exacting study is made of the communities in the area to determine the one most suitable. Two basic general policies are followed: First, the plant size is limited to a total employment of 2,000 people; and, second, since Campbell is basically a processor of agricultural products, expansion in rural areas rather than urban areas is preferred. We do, however, locate within a reasonable distance of metropolitan areas to minimize freight shipment of our finished products. Many factors are considered in locating a new plant in a particular area. Among the more important are the following:

The business climate of the community. — The lessons of the past have taught businessmen that they stand their best chance for success when their production plants are located in wholesome, well-run, and progressive communities.

The availability of ingredients. — Since a good many of the ingredients used by Campbell are agricultural products, it is important that plants be located in good farming communities. Here again, the business climate must be wholesome, industrious, and unhampered by restrictive legislation. We prefer to deal with growers who are "sound," progressive, independent businessmen. Soils must be well-drained, the growing season must be at least 5 months in duration, rainfall should not be excessive at anytime during the growing season, water should be available for supplemental irrigation, hail should be nonexistant, temperatures moderate, and wind velocities not exceed ten miles per hour for extended periods.

Availability of good labor. — A good supply of labor is, of course, essential. It is not necessary that this labor be highly skilled, as many workers may be trained from surplus farm workers.

Water supply. — This is a very important factor. The quantity of water used by food processors for washing is large and the supply must conform to rigid quality specifications. The water supply system, in all its parts, must be free from unsanitary defects, of reasonable temperature, and noncorrosive.

Effluent. — The disposal of large quantities of waste water from washing vegetables and process cooling may become a problem but usually not a limiting factor.

Freight costs. — The cost of outbound and inbound freight must be carefully analyzed for this is a major expense. An attempt is made to get a location served by at least two railroads which have provisions for reciprocal switching. It is also desirable to have the plant located near a major truck highway.

Tax structure. — Campbell expects to carry its full share of taxes and no special arrangements are solicited. However, comparison between State and local rates are made. An analysis is also made of the debt structure of the community.

Cost of utilities. — A comparative analysis is made of the steam and power costs.

Available plant site. — Grading and service costs, drainage, special foundation requirements and suitability for expansion are all considered.

So you see the selection of a processing plant location involves much planning, endless investigation, and a good deal of intestinal fortitude.

Finally, it seems to me that the relationship between a new processing plant and the community is an interesting case study for men like yourselves who are vitally concerned with the farm problem and, to a lesser extent, perhaps, the problem of urban congestion.

As you know, there are about 4,600,000 farms in the United States. Approximately 90 percent of the production comes from 2,000,000 farms. That leaves only 10 percent of the total production for the remaining 2,600,000 farms, which is well over half of the total number.

It is here, in my opinion, that we have the nub of the farm problem. Many of those 2.6 million farms cannot be efficient producers simply because they do not have sufficient good land to take advantage of new technology and thus realize the economies inherent in large-scale farming. It has been reliably estimated that, in the last decade, the average investment per farm worker has risen from $9,500 to more than $20,000, so it's apparent that the small, high-cost farm is our real farm problem.

As for the problem of urban congestion, during the 1950's urban population increased by more than 20 percent. Urban and non-farm rural areas, mostly suburbs, shared a population increase of 30 million during the last 10 years. Much of this increase resulted from people migrating from farms to urban areas. It is predicted that this trend may mushroom or, at least, increase throughout the 1960's. The results are obvious — problems of housing, parking, intra-city transportation systems, expressways, classrooms, tax rates, water supply and sewage — to name just a few. On the basis of these two observations I would like to make this one point:

America's businessmen can help ease the Nation's farm and urban congestion problems by following the self-serving proposition of locating more and more new plants in rural areas. This would accomplish some very worthwhile things, not the least of which is that business would be recruiting from a most productive labor market — the man reared in America's farm tradition.

If more and more plants are located in rural areas, the so-called marginal farmer could find, if he chooses, industrial employment that would provide off-the-farm income.

In the last 10 years, industry spent about 300 billion dollars for plants and equipment in the United States, an amount about equal to the total annual gross national product early in the 1950's. The best estimate for capital expenditures in the next 10 years is based on a 4 percent increase compounded annually. If this become a reality, United States business will spend more than 400 billion dollars for plants and equipment in the next 10 years. Imagine the uplifting effect on hundreds of farm communities if a sizable proportion of this projected capital investment is made in rural areas.

BULK HANDLING OF RAW PRODUCE FOR PROCESSING

W. J. Scheffer
Seabrook Farms Company

This is a subject I was always vitally interested in — particularly since, in the course of the last 25 years, man-handling of small produce containers developed to be a major bottleneck of large-scale processing operations. In spite of this, we find that in the East the biggest canning crop, processing tomatoes, is still handled very much like it was 25 years ago. The pickers deposit the produce into 5/8's, place the baskets alongside the driveways in the field, and loaders man-handle the baskets onto the over-the-road trucks. These trucks carry the tomatoes to the plant and also serve as temporary storage facilities. At the plant, the baskets are emptied into washer flumes, and the farmer hauls his own empties back to the farm.

In the West, the procedure is somewhat improved in that pickers deposit the produce into square lugboxes. These are stacked alongside driveways in the field, are still mostly man-handled upon the flat-body trailers, but are stacked onto empty pallets on the flat truck bodies. Sometimes there is a forklift in the field and the lugboxes are stacked on pallets on the ground, with the loaded pallets forklifted onto the flat bodies. At the Western tomato plants there is very little waiting by the haulers; their vehicles are unloaded fast by forklift and reloaded with palletized empties. The tomatoes then are forklifted to tote-box dumping rigs which automatically dump the produce onto conveyers or flumes and return the empties to a palletizing station. With the advent of the tomato-picking machine, the lugbox will give way to bulk handling in rather shallow tote bins which are placed empty onto a flatbed truck and are loaded from the picking machine's delivery conveyer.

Lettuce handling, interestingly enough, reversed itself during the last 5 to 6 years. In the past lettuce was bulk harvested into so-called "baskets" — slat-sided metal containers about 8' x 4' x 4" in dimension — hauled to the packing plant, mechanically dumped onto conveyers, washed, sorted, trimmed, then packed into wirebound crates, iced, and delivered into reefer cars by conveyer.

Today, with vacuum-cooling, lettuce is cut by hand and packed into corrugated shipping cases in the field. These cases are man-handled upon flatbed trucks containing empty pallets, palletized upon the trucks, unloaded by forklift at the vacuum-cooler, run on pallets through the vacuum-cooler, then reloaded into reefer cars or refrigerated trailers. There are truck size and rail-reefer-car size vacuum-coolers in existence which reduce handling. With the advent of cellophane or poly wrapping at the point of origin, we may see another modification of this handling process looming up: poly wrapping rigs mounted on trucks traveling through the harvest field, with the finished packages discharged at the end of the rig upon palletized trucks for transport to the vacuum-cooler.

Snap Beans have been traditionally hand-picked into 5/8 or bushel baskets, carried to checking scales, piled up along roadways, man-handled onto over-the-road trucks, unloaded in the plant, rehandled at least once to be dumped onto the conveyers feeding the processing lines.

Today, an ever-increasing percentage of snap beans for processing is machine-picked into tote bins which are forklifted in the field onto over-the-road trucks, forklift unloaded at the plant, with the tote bins forklifted to the mechanical dumpers feeding the process lines. Sometimes the forklifts themselves do the dumping via rotating heads.

The hydraulic dumping hopper trailing behind the bean-picking rig permits the elimination of tote bins, with the dumping hopper emptied into high-sided over-the-road trucks at the edge of the fields, which in turn can be dump trucks, dumping at the plant into a pit from which the beans are conveyed onto the processing lines. This method can be refined, where temporary storage is necessary, by dumping the bulk loads into a hydrocooling flume in a basement or pit, from which the hydrocooled beans are conveyed out into regular tote bins and cool-stored until they can be used in the processing lines. This last described combination of methods represents probably the ultimate in economy of handling snap beans for processing at present.

Sweet Corn for processing has been completely bulk-handled from the start. Hand-pickers throwing into horse-drawn wagons at the beginning. Hand-pickers throwing into trucks later. Then came the picking machines, delivering into wagons, trailers, or trucks, which served as storage media and were only dumped when the corn was ready to be conveyed into the processing lines.

Later came the "dumping yard," with its concrete slab upon which the corn was dumped, with the ears mechanically pushed onto a conveyor which was imbedded into the concrete slab. With this method, the number of vehicles used can be sharply reduced.

This method is still generally used, except that lately the corn is not picked directly into a vehicle, but a hydraulic high-lift-dump hopper trailing behind the picker. This permits the over-the-road vehicles to stay on solid ground at the edges of the fields, where the pickers empty their hydraulic hoppers as they drive by.

Spinach and other greens were manually cut and busheled in the field. The butcher knife originally used was eventually replaced by a "Spinach Scoop" — still busheling up in the field.

Then "New Way Harvester" and other harvesters which were developed delivered the greens in bulk directly onto the body of a high-sided truck or field-trailer via a conveyer. Sometimes these field trailers are self-unloading and are transloaded at the edge of the field via a tall conveyer into tall-sided over-the-road trailers for delivery into the plant. At the plant, the greens are often forked off the truck into conveyers leading to the processing lines.

Cauliflower is hand-harvested selectively, with the cutters throwing the heads either into trailers, trucks, or lettuce baskets. When harvested into small trailers or lettuce baskets, the cauliflower is usually transferred into tote bins at the edge of the field either manually or by gravity. The tote bins are hauled on flatbody over-the-road trailers into the plant, forklifted off the trucks and fed into the processing lines via forklift and tote bin dumpers.

Brussels sprouts in this country are predominantly harvested manually once a week into bags, then transferred at the edge of the field into tote bins or field crates. These are forklifted onto flatbed trailers, forklifted off the trailer at the plant, and emptied via dumping devices into the production line or size-grading rigs.

A new development is the "Once Over" harvest possible under certain climatic conditions and by certain varieties of sprouts. The "Once Over" harvest can be accomplished manually or mechanically, with the whole stalk, minus excess leaves, cut and hauled to the plant, where the florets are removed in one operation, either manually or by a machine.

Broccoli is still harvested manually and selectively about every 4 to 5 days of the season with a crew of men walking through the field.

These men can dispose of the stalks by: (1) Throwing them into lettuce baskets carried on a tractor alongside of the crew, (2) pick-a-back bags which are emptied at the edge of the field either into crates or tote bins, or (3) harvest conveyers — carried in front of the crew by a tractor. These conveyers deposit the spears directly by an elevator-conveyer into a vehicle pulled alongside the harvest conveyer.

The lettuce baskets or field boxes are transferred from the tractors onto over-the-road trucks, hauled to the plant, unloaded there all by pushing them on their caster wheels. At the plant, the baskets are forklifted onto mechanical dumping rigs which empty them onto a conveyer feeding the processing line.

This same type of handling occurs when broccoli is hauled in tote bins. Broccoli is often hauled and handled in wooden crates on pallets. While they are often dumped onto conveyers feeding the production lines in bulk, other plants use the crates as a measuring device for metering piecework tasks to the trimming girls.

Asparagus is still hand-harvested, although some very valiant efforts are being made to mechanize this operation. Most of it is cut off with a knife, although an area in the Middle West uses the "snap-off" method. The cutters carry handfuls of spears and deposit them along the rows, with gatherers picking them up and putting them into field boxes of various sizes carried along on carts or tractors.

"The Harvest Rigs," whereby the cutting personnel rides on seats built on frames pulled along the field by tractors, are gaining limited acceptance. With these rigs, the picker puts the cut-off spears directly into the field boxes carried directly in front of them on the harvest rigs.

When delivering to the processing plants, the field boxes are now predominantly palletized, although this step is often taken at the so-called receiving stations where the farmer delivers his boxes from the fields.

At the plant, asparagus in palletized field box-loads is handled by forklifts directly to the lines or in and out of temporary cool storage.

Peas and lima beans are generally harvested either by the vining method or by the combine harvester method. For the viner, the product is cut and loaded mechanically onto dump trucks and hauled to the viner. The vines are generally dumped next to the viners then

1. Hand-fed by pitchfork

2. Semi-mechanically fed by the "Key" grab-fork method

3. Mechanically fed by front-end loader tractors into the so-called "Jerrell Feeders" which permit large gobs of vines fed uniformly to the viner.

4. The "Truckload Feeder" is a further development of the "Jerrell Feeder" made large enough so that a whole truckload of vines is dumped by gravity from an elevated position (ramps, hillside) directly into the feeder.

Combine harvesting of peas and lima beans has been under development for several years now, until at present it reached a stage of perfection where it seriously competes in significance with the stationary viners. The combines accumulate the product in bins and discharge it into bulk trucks. The bulk trucks then haul the product from the field to the plant and discharge it by gravity into pits or conveyer systems taking the product into the process lines.

Blackeye Peas and the other varieties of Southern Peas are still manually harvested like snap beans, then hauled to the viner station in "Cotton Sheets" or in bulk truckloads. At the viner, it is desirable that the peas in the pod "go through a sweat" before thrashing, therefore it is desirable to hold them either in bulk trailer-loads or dumped on the cement slab in front of the viners. The viners are fed by pitchfork, grabfork or pushing the pods onto a floor-imbedded conveyer. The vined peas are usually conveyed in bulk from the viner through a cleaning process into the plant's pea lines.

Okra is hand-harvested every other day during its main season. It is usually handled in field boxes or bushel baskets from the field to the plant where the boxes are emptied into large bulk storage hoppers, and the okra is hydrocooled and fed into the plant via conveyers into which it is fed manually or in part by gravity.

Another method involves transfer of okra at the edge of the fields into pallet bins on trucks, hauled to the plant, then unloaded by forklift and introduced into the process lines by mechanical dumping.

Potatoes constitute one of the largest single vegetable items used for processing. In all the major processing areas, combine-digging and bulk-loading have displaced the hand-pickup method to a very large extent.

Self-unloading trucks carry the potatoes either to processing or grading and bagging plants or to storages. Unloading is mostly by belts built into the bottom of the truck bodies. At plants unloading is into flumes.

In storages, the trucks are unloaded onto binloader conveyers which carry the potatoes gently and deposit them in bins as high as 12' -14' deep.

The movement out of the bins is normally via floor-flumes by floating in water to the processing or packing lines.

Sweetpotatoes and yams, when stored in curing houses for processing or shipment, are usually in bushels — with tote bins gradually being introduced in the handling and storage method.

Beets and carrots for processing have been machine-topped, harvested, loaded, and bulk hauled to the plants for quite some time. At the plants, they are unloaded by gravity into pits from which conveyers carry them to temporary storage bins or to final processing. Because of the extraneous materials (dirt, weeds, and so forth) mixed in with the product, beets and carrots are usually weighed in on bulk hopper scales after an initial cleaning process.

Squash is also one of the completely bulk handled vegetables. Tractors windrow the squash in the harvest fields. Loading into bulk vehicles is either by hand or a mechanical loader conveyer. In the plant the bulk loads are rolled off into washer flumes, with a few men aiding in controlling the flow.

Onions are handled a great deal in bulk. While some areas have introduced topping by a rotary cutter and digging and loading by potato combine, most areas dig mechanically, leave them to cure in the row, top them manually, and often pick them up in bags for further curing in the field. Mechanical topping is gradually replacing the hand method.

Then the bags are emptied into either pallet bins, forklifted onto trucks, hauled into storage and forklift unloaded and stacked there. Or they are unloaded from the field into self-unloading bulk trucks, unloaded in the storage by binloader-conveyers similar to potatoes. Storage of onions in bulk requires a professionally engineered system of ventilation and heat control for best results. After storage, when ready for processing or shipping, the bins are emptied with floor imbedded belt conveyers which deliver the onions into the packing house. Onion storage in tote bins or palletainers is also widely practiced.

Peppers and pimentos, when grown for processing, are handled very much like tomatoes: Lug boxes are generally used in connection with forklifts and pallets.

Cucumbers for processing have been traditionally handled in small containers. With gradual development of mechanical harvesters, bulk handling will perhaps make strides.

Cabbage for kraut has been a traditionally bulk-handled item — cut in the field, manually loaded into bulk vehicles. Cabbage is handled in bulk throughout its process by conveyers.

Fruit: Cherries are mostly picked by hand, but lately also mechanically via shakers and catching screens. They are hauled in bulk tanks and at the processing plants are handled by gravity and pumping, much like peas.

Grapes are still mostly hand-picked, with mechanical harvesting in experimental stage, but after picking and handling, hauling is all in bulk. Tank-like truck bodies with conveyers haul them at the wineries to the crushers.

Apples and pears are still hand-picked, but tote-bin handling in 1,000-pound lots become quite common with bigger operators, although the "appleboxes" on pallets are still being used extensively, particularly in the East.

The hauling of the tote bins from the orchard to storage and packing house is often done with "Straddle Carriers" in the Northwest. Self-propelled hydraulic lift devices are being gradually introduced to hold the harvest hands, lift them up into picking position, eliminating the use of ladders.

Peaches and apricots are still hand-picked, and because of bruisability and discoloration problems, the field-box method of handling the fruit (on pallets) is prevalent.

Prunes are still predominantly picked up by hand, although harvest by mechanically shaking the trees, collecting in screens and conveying into tote bins for hauling into drying sheds is gradually spreading. Dried prunes and other dried fruits are hauled and stored in 4' x 4' x 4' tote bins until they are ready for packaging and shipping.

Citrus fruit for processing is bulk-handled throughout. Picked by hand into picking bags, these bags are emptied into tote bins or small orchard trailers, hauled to the roads, and transferred into large bulk trailers via special conveyor-elevators. At the plants, 40-feet-bulk trailers are unloaded by gravity into conveyer systems, with temporary storage in holding bins.

Berries of all kinds, because of their tender nature, are still exclusively hand-harvested, handled in field flats, sometimes in quart containers in flats, but for processing, mostly in bulk 12-pound flats or boxes. These flats are palletized for shipment to the packing plants, where they are forklifted off the trucks, stored in pre-cooling rooms, moved onto the processing lines.

Cranberries can be handled a little rougher with scoops and attempts at mechanization of the harvest process are carried on at present. Temporary storage of cranberries was traditionally in barrels, later on in multiwall paper bags, lately in palletainers.

SAMPLING PROBLEMS IN THE BULK HANDLING OF FRUITS AND VEGETABLES

W. W. Anderson
Maryland State Board of Agriculture

There are several basic reasons for securing representative samples from both bulk loads and commercial packs of fruits and vegetables. Foremost, when the commodity is harvested and moved to the assembly line for processing or packing, or loaded for future markets, we know the orchard or field-run quality varies considerably in many ways as to color, size, blemishes or defects, cleanness, maturity, and decay. This may be due to irregular growing conditions and varietal differences, with wide variations in maturity, diseases, and especially progressive condition factors, including decays of many kinds and deterioration in freshness, maturity, color, and other post-harvest damage that arises from many causes.

There is a definite need for a mechanical sampling device that will eliminate the human element, that is, chance sampling and manual labor in securing representative samples from bulk loads, especially for crops intended for processing purposes. We find such devices in the citrus processing industry, but this type of sampler is not readily adapted for other products or the terms of purchase of the raw products does not permit delayed sampling by in-plant methods as is presently being done by citrus processors. As a result, we need adequate research in this field to develop simple devices that are practical and reasonable in cost for general use. Also, we need to acquaint the fruit and vegetable industry of the necessity for such devices and have this included as an integral part of the plant's operation.

At present, depending on the commodity and the area in which it is grown, there are wide variations in the present methods of bulk sampling. Some areas use top layer sampling and restrict their work to this accessible portion, while others sample portions of the lot before combining it into bulk loads. A few of our large processors are using mechanical devices to officially sample the entire contents of bulk loads and pallet boxes, with adequate facilities and equipment. The extent to which the sampling and inspection is being done is somewhat dependent on grower contracts and the purchase specifications of the raw products for determining the various grades and price-wise quality levels; also, for in-plant needs of quality control and determining the costs of the product as related to the several grades of end products. Oftentimes, loads are bought on open market or at the farmer's gate at flat delivered prices, with only in-plant sampling of the finished product.

One of the problems that confronts the individual sampler is getting a composite core sample taken from all parts of the bulk load or container. This may require mechanically inverting the pallet box or tilting one side and securing the sample through a side or end gate, or bottom gate on boxes so constructed for this purpose.

In our Maryland area, nearly all of this sampling must be done on arrival of the loads as they enter the plant yards. Also, a certificate must be prepared immediately covering the various quality levels, size and amount (or percentage) of culls, foreign material, decay and, oftentimes, usable material according to grower processor contract.

In an endeavor to get a more comprehensive report on the bulk sampling problem, I had written to several other States for comment, which I shall give you in brief as a cross section of current sampling problems and the methods of handling.

From Pennsylvania we have this comment: "Our processors have adopted the policy of not furnishing bulk bins to the growers, and until the growers increase their use, the problem will not be too great. One large firm in Chambersburg has installed a new California type sample dumper and it is in use this season for peaches for processing."

From New Jersey we have this comment: "We have followed a procedure of digging into various areas of the individual pallet boxes and selecting pallets from various parts of the load. This works out very well on our sampling of snap beans for processing. It isn't too satisfactory on carrots, but that is how we do it at present."

From New York State we have the following comment:

"About half or our apple processing inspection stations are using the California Hydraulic lift device for dumping bulk or pallet boxes of apples.

"Two pallet boxes are taken from each load. A bushel of apples is taken during the process of dumping from each box for the sample. The total sample generally weighs from 98 to 110 pounds.

"One or two processors have tried to develop their own machine, but to date none of these have proven satisfactory. We feel the California machine does a pretty good sampling job.

"In plants that have no mechanical machine for dumping, the inspector digs into the pallet boxes as deep as he can and restricts the inspection to the accessible portion."

PRODUCER-PROCESSOR RELATIONSHIPS

George P. Donaldson
Agriculture Commodity Commission for Peanuts

While I have a definite feeling that relations between the producer and the processor in our Nation are improving, I occasionally hear small talk which causes me to believe that we do have a problem of increasing the understanding, the tolerance, and the respect of these two important groups toward each other. In an effort to ascertain the extent of the need for better understanding I still hear occasionally a remark from a processor such as this: "The producer is only interested in quantity, not in the quality of his product; he doesn't care what kind of produce he markets. He is just interested in selling his crop wherever and whenever possible to use the proceeds to pay operating and living expenses." And another: "The producer expects the processor to take a rough farm commodity and transform it into a perfect raw product without damage. Too many of our farm producers have an absolute disregard for the need to market a quality products."

The processor attributes poor quality to: (1) Not harvesting at the correct time, (2) not handling commodity properly, and (3) improper grading as to size, maturity, insect damage, and disease damage. Perhaps this last criticism should not be placed at the door of the farmer but at the door of the middleman. It seems to me that these statements are the result of the lack of understanding of the producer's problem or of his efforts to overcome them.

The producer, is much more vitally concerned about quality than the processor or the manufacturer would think true. For instance, in the community in which I live, during the past year there were 29 short courses that dealt with production. These meetings were attended by 2,435 farmers. In all of these meetings quality products occupied an important place on the programs. What has happened in my area can be multiplied by meetings throughout the United States.

As you know, farmers throughout the land are organizing commodity groups for the purpose of placing on the market better products. In our State, marketing orders have been issued for four commodities — eggs, milk, potatoes, and peanuts.

Let me give you just a few complaints from the farmer. He still feels that it is unjust for him to be forced to buy at retail prices and sell at wholesale prices. He feels that the general public pictures him getting rich when he only gets about 38 cents out of the consumer dollar. He complains that there is too much spread between what the farmer receives and what the housewife pays. For instance, in the last week, pole beans brought the farmer $1.75 per hamper but they sold in the grocery store for 29 cents per pound. I happen to know that there was no processing done with this hamper of beans, but the grocery store got approximately $9 for the hamper of beans which was sold at the farmer's market at $1.75. Do you wonder that the farmer views the business world with suspicion.

He feels that he does not yet have a reliable market, especially for perishables. He is handicapped, he says, because he does not always know the kind, the quality, or the condition of a commodity wanted by the public. He feels that the middleman and the manufacturer should know the risk he has to take because of weather, insects, diseases, and an uncertain market. He knows that once production has started it cannot be halted, but he is afraid that this important factor is never considered by the public.

The matter of establishing good will or better public relations between the producer and the processor hinges on better understanding.

Suspicions and antagonisms can be removed through mutual understanding of the other fellow's problem. The understanding between the producer groups and the processor groups must be developed if agriculture is to maintain its rightful place in the economy of our Nation and the other nations of the world. We are going to witness tremendous changes in marketing and our success will depend upon our knowledge of changing markets and our ability to change with them.

The producer and the processor have many problems in common:

1. Changes which are taking place affect both the producer and the processor. Both segments must be aware of the challenge of change. We are living in a consumer's world. Her wishes, her whims, her changes are the ruling factors in a free economy. There is a constant turmoil to meet consumer wishes.

2. Both groups will be competing with other groups for manpower. We need to stress the need for more technically trained men in agricultural research, in production, and in processing. Many of our best potential leaders are being lured away from agricultural production. With the prospect of the population of our land being doubled by the year 2000, we will need more trained manpower.

3. Agricultural commodities in the future will have keen competition from abroad. Western Europe and Japan have rebuilt their production facilities and they have had access to American technology and the advantage of economic aid. They have retained their low labor rates. To meet foreign competition successfully we will have to improve our production and our methods of processing. This will take understanding and cooperation between the two groups being discussed here today.

How Better Relationships can be Established

Organization — Producers and processors have a hard time developing harmonious relationships, even in communicating with each other until they are organized. Producers obviously need organizations to speak and act for them; in most cases so do processors who sometimes have difficulty in taking a broad view about industrial problems, especially long-range problems unless they can be sure that they will not suffer competitively at the hands of other manufacturers for taking a position which they do not believe to be right and important for all.

Depth in organization is also necessary to develop harmonious relationships between producers and processors. By this I mean, State, local, regional and national.

1. To get administrative action with Governmental departments in establishing grades and standards that would be realistic both for producers and processors. Examples of this type joint action are already taking place.

2. To work for favorable Government legislative action: For instance, both groups worked hard to establish the new National Peanut Research Laboratory at Dawson, Georgia, which clearly stands to represent both.

3. To increase Government purchases. Government purchases today can be a sizable market. The National School Lunch Program alone has one-half billion dollars per year to spend locally on food.

4. To improve the basic crop — to agree on goals for researchers.

5. To work together to increase consumption of the present production.

6. To work together to secure new production break-throughs, including some of our instant foods.

7. To work together to build export markets.

8. To work together to solve a crisis in publicity work; for instance, what will we do to face trouble from atomic fallout if testing continues.

These are just a few of the ways in which the groups can work together. Surely working together brings about better understanding. Obviously, producers and processors cannot have a harmonious relationship until they know what each other's problems are and know the areas where they can work together to solve these problems and the areas from which their interests may conflict. It is surprising how these areas of conflict seem to dwindle in a face-to-face conversation.

Communication — Recently two representatives of one of our large food manufacturing concerns in America spent a day at the Coastal Plains Experiment Station learning all they could about the problem of growing, harvesting, and shelling farmer stock peanuts. The research men who conducted a tour for them told me that the visit of these men proved to be one of the most rewarding days in the history of those engaged in that particular type of research. One of the visitors from the manufacturing plant told me that his eyes were opened and that he had a much more sympathic feeling for the producers than ever before. It would be impossible for the end production manufacturers to really know everthing about growing and harvesting of farm commodities. It would be equally as impossible for the farmer to visit all of the manufacturers' plants and learn firsthand of the manufacturers' problems in labor, transporation, and rising costs. But it is not impossible for the two groups through the power of the press, radio, television, conventions, workshops, and newsletters to acquaint each other with the fields in which they work. Certainly a better system of communication would bring about removal of unfounded prejudice. I should like to suggest that our market men through the extension service, experiment stations, and colleges and schools of agriculture, arrange each year joint sessions of producers and processors, where they may discuss their problems and their mutual fields of interest. The first essential of harvesting good will is to sow good-will.

RESEARCH DEVELOPMENTS IN THE QUALITY FIELD

A. Lloyd Ryall
Agricultural Marketing Service
U.S. Department of Agriculture

Those of us who are involved in the physical and biological aspects of marketing research must initiate our quality studies at harvest or at delivery from the grower. We fervently hope that quality is inherent in the product at that point for there is very little we can do to improve it. Thanks to the research efforts of the plant breeders, the nutritionists, the entomologists, and the plant pathologists quality usually is good at the farm gate and the trend is toward improvement as the knowledge of production techiques enlarges.

Research in the Market Quality Research Division, AMS, has two principal goals. The first is to develop techniques, methods, and instruments for the objective measurement of product quality. The second is to learn the reasons for quality deterioration after harvest and to translate this knowledge into improved handling, packaging, storage, and transportation procedures.

An important part of our quality measurement research is concerned with harvest maturity. A few years ago our Instrumentation Research Laboratory developed equipment which makes it possible to pass light of any desired wavelength through individual fruits or vegetables. Measurement of the amount and quality of transmitted light enables accurate measurement of internal chlorophyll or anthocyanin pigments. Since chlorophyll decreases in many fruits as they mature, this measurement is promising as a maturity index. We have underway an intensive study of light transmittance as a maturity measurement for apples, peaches, and prunes. The results to date are encouraging.

Research in progress also indicates that water-core in apples can be detected by light transmittance. This provides a very useful, nondestructive tool for research on water-core, as well as a means of detection for inspection purposes and, we hope, ultimately for automatic rejection of affected apples on the sorting line. The same instrument has possibilities for the detection of black heart and hollow heart in potatoes, brown core in pears, pit browning in prunes, and scald in red cherries.

We have just completed several years of research aimed at improved grading procedures and objective color determination on processing tomatoes. A valuable development is the Tomato Colorimeter, which accurately measures color characteristics of the raw product as related to quality of the processed product. This instrument is now in commercial use. In cooperation with the Inspection Service a grading system has been developed which provides a more realistic basis for tomato pricing than the presently used cannery grades. The new system is now under test by commercial processors.

Research on quality maintenance in horticultural crops includes studies on fruit handling, packaging, storage, transportation, and the nature and control of diseases and disorders which cause wastage during marketing.

Interesting developments in recent vegetable research include: hydrocooling test with cantaloups and early-crop potatoes; studies which determined the casual organism, the source of infection, and a method of control for black spot disease in radishes; the causes and effects on quality, of external and internal bruising in tomatoes and additional information on temperature requirements for "pink" tomatoes.

Significant developments in potato research during the past few years include: effects of low temperatures on seed potatoes prior to planting; precutting of seed potatoes before transit or storage with provision of the proper environment for healing such stock; and sprout inhibitors for use at intermediate storage temperature on potatoes intended for processing.

Much of our research with apples in the past few years has been concentrated on the evaluation of chemical treatments for scald control and the role of controlled or modified atmospheres in the storage of apples. In controlled atmospheres oxygen and carbon dioxide concentration are precisely controlled in sealed rooms. In modified atmospheres oxygen is decreased and carbon dioxide is increased above that present in air, but concentrations are not measured, nor manually controlled. Modified atmosphere develops when fruit is packed in sealed bags or box liners of limited permeability usually 1.5 mil polyethylene. The effect of these procedures on apples of different varieties stored at temperatures from 31° to 40° F. has been extensively investigated.

Aside from the quality-measurement studies previously mentioned, research with peaches has been largely concerned with reduction of wastage from decays which develop after harvest and with protection from physical damage caused by unsuitable shipping containers. Brown rot causes substantial wastage in eastern peaches during wet harvest seasons and Rhizopus rot is responsible for considerable losses after harvest in western peaches, particularly during the postharvest ripening of freestone peaches for processing. The half- and three-quarter-bushel baskets which are widely used in the east are not suitable containers for mature peaches. Considerable effort is being devoted to finding a container which is adaptable to hydrocooling and also protects the fruit from physical damage.

Gamma irradiation of fruits and vegetables has been studied for several years at our Chicago laboratory. We are determining the effects of different dosages and dose rates of gamma radiation on pure cultures of decay-producing fungi; on the same fungi growing in host fruits and vegetables; and on the texture, flavor and ripening response of the fruits and vegetables exposed to irradiation. A few fruits and vegetables such as peaches, strawberries, grapes and citrus fruits have a greater tolerance to gamma irradiation than some of the decay organisms which attack them. For these, irradiation may be a promising method of decay control. Many other fresh fruits and vegetables have a rather low tolerance to irradiation. For these the treatment appears to have no promise.

Principal effort in our research with citrus fruits in Florida, California and Texas has been on control of postharvest decay; host-parasite relations including time and mode of infection with such common decays as blue and green mold and the stem-end rots; and the application of controlled atmospheres in the storage of lemons and red-fleshed grapefruit.

We have a sizable and diverse research program. Nevertheless, during the course of each year we receive, from industry groups and interested individuals, many requests and suggestions for additional research. These requests include projects with commodities of minor economic importance nationally, but certainly of major importance to the producers and handlers of those crops. Also requested are expansion of present projects by the inclusion of additional areas or problems and hastening the acquisition and release of information needed by a particular commodity group. We are sensitive to industry needs but obviously we cannot expand or reorient our program to meet every request. We do attempt to maintain our research with a balance between basic research for increased understanding of physiological processes and applied research for the solution of immediate problems.

IMPORTANCE OF QUALITY MAINTENANCE TO THE RETAILER

Frank G. Wack
The Kroger Company

By telescoping this title into an alphabetical formula, as has been the vogue in recent years, we might come up with something like SBQV. This expresses succinctly the importance we in the Kroger Company attach to quality — **SALES BY QUALITY — VALUE** — SBQV.

The word VALUE is purposely added. It acts as a counterbalance to the word QUALITY which when used alone is often misused or misunderstood. The two are practically inseparable in our business. Value is perhaps the word most frequently heard in merchandising board meetings. "Creating a value" which will make sales at a profit is the merchandiser's basic function. Merchandising success is measured by the ability to best gauge the intrinsic worth and desirability of a product and set the rate at which it is potentially exchangeable for the customer's cash. If value is the worth, then quality is the sum of the characteristics which make up that worth. These characteristics, properly evaluated, can trigger sales and profits. These characteristics constantly improved, protected, and enchanced can trigger greater sales at more profit.

The QV triggers result in sales by favorably reacting on the five senses of their targets — our customers. Lying in ambush to either support or defeat these five senses is the all powerful sixth sense. Properly trigger the sense of sight, smell, taste, touch, or hearing and sale is possible. The more the senses can be favorably brought into play the better the odds for a sale, or a bigger sale, or a repeat sale. The sale is cinched when the customer's sixth sense evaluates these quality characteristics favorably in relation to the value or price set.

SIZE

When loose pack replaced hand pack oranges and lemons some years ago the wider range of sizes resulted in customers doing considerable sorting (with damage) of the product. This has since been improved. The same thing happened in the apple industry and is still true to some extent. However, the potato industry has been somewhat slow to recognize the customers preference for better sized product. Even the U. S. Standards are outdated, permitting the 1-7/8" and up in U. S. No. 1 grade. Raising the U. S. Standard from 1-7/8" to 2-1/8" would be progress.

Customers today show a decided preference for medium and large size fruits and vegetables. School boy size apples (163's and smaller) moved well in the 1940's and 1950's but can get us in trouble today. Small peaches (1-7/8"), small oranges, lemons, nectarines, plums are all more difficult to move than the larger sizes. With customers showing this marked preference why not favor the fresh market with the preferred sizes and relegate the rest to processing where size loses its identity and importance?

Sweetpotatoes are an item where much should be done to improve sizing as well as shape grading. Of course, on one of our most important items there are no Government grades relative to shape and size — bananas. Watermelon sizing is very erratic. The range allowed on a load is too broad. Cabbage sells excellently by the head, but better sizing is needed to do this regularly. And what about honest advertising as to size — can 96 size grapefruit be honestly described as Jumbo? In general, retailers can market products better if sizing is tighter in range and more consistent within the packages and loads. We are willing to pay a reasonable price to get it.

COLOR

Everybody is an expert on color — every grower, shipper, buyer, merchandiser, store manager, but mostly, every customer. It is perhaps the most used descriptive term in our business and probably the most abused. Ask ten different people to define "high color" as used in advertising and you probably will get ten definitions only loosely related to each other. Ads that say dark red apples, rich red tomatoes, golden bananas, and snow white cauliflower are often misnomers and at times outright lies. Color is very important in marketing fruits and vegetables. It isn't so much that customers will buy only red apples, but if the apple is supposed to be red — Red Delicious, for instance — it should be truly red, not anemic, but a vibrant, glowing red. And Golden Delicious should be golden, not grass green.

The recently revised tomato color standards designate six stages of color from green to red. It seems the marketing potential is definitely weakened to permit up to 5 percent green, the lowest color stage, in the top color stage — red. To really capitalize on the quality and flavor characteristics of vine-ripe tomatoes, color sorting formerly done by repackers should be properly done at shipping point. Vine ripes have saved what was a dying segment of our business. It would be suicidal to misuse and mistreat vine ripes the way we did repacks and tubes.

Perhaps the whole industry would be benefited if a color buying guide were developed. It might take color talk out of the area of guess work and percentages and make it more uniformly visual and definite. Basic fruits and vegetables and the principal varieties of each could be catalogued by color scales graduated in visual tones and percentages. Customers would repay us with more sales if we were more demanding in our color specifications.

Taste-Maturity

Turning to another of the sales triggers, let's combine taste and smell since they interact with each other to a great extent. These triggers, particularly taste, make or break the all important repeat sale.

There are fine balances at work here — a balance which the grower must maintain between harvesting and shipping a product at the right time to insure taste satisfaction or simply shipping to insure "no claim" arrival at the risk of satisfaction and repeat sales. The buyer likewise may tip the balance in deciding between customer satisfaction with some shrink risk or insuring too much of a shrink safety margin at the sacrifice of sales. The taste trigger functions best and decisions relative to these balances are best defined in the one word — maturity. Perhaps in this area more than in any other progress can be made to promote and insure the sale of fresh products — HARVEST AND SELL THEM MORE MATURE.

Much progress has been made in this area — cantaloupes are more consistently mature than ever before. Vine-ripened tomatoes are another prime example. But more remains to be done than as yet has been accomplished. When will peaches be shipped and sold more consistently mature? And how? What about plums? Nectarines? This problem frequently concerns both the product and the package. A package improvement is often inevitable if a product is to be marketed more mature.

Mr. Lloyd Ryall in his study of several years ago pointed the direction for marketing pears at a better stage of ripeness. We have found it difficult to sell our buyer's and merchandisers on the use of this method of half-stage standard refrigeration. This is due partly to our fear of over-ripe arrival but more to the fact that most of our pears are shipped on mixers or with another item such as apples. We are continuing to work on this. Perhaps something might be done in experimenting with compartmented sections on mixers with individual temperature control for each section. This would be invaluable in shipping tomatoes or strawberries.

Frequently the effectiveness of the taste trigger is destroyed by shipping products too early in an effort to make the high market. All too often the first grapefruit on the market cancels our repeat sales for some weeks and the customer is hard to reconvince and resell. Lettuce is frequently shipped too loose and leafy; early grapes, sour; — the first oranges tasteless, bitter, or juiceless.

Both Government and State marketing orders have proved effective instruments to improve the taste, size, sugar content, and so forth of many items. But the problem may in part go deeper — insufficient knowledge and human fallacy. Perhaps some advancement electronically or otherwise will supplement the human factor in determining maturity more consistently.

Our customers today are simply too sophisticated in their shopping to buy immature products. All to frequently they are rebelling by not buying. In this age of atoms, electronics, and mechanical brains customers are no longer willing to excuse inadequacies in refrigeration, carriers, containers, and the like. Item by item, they have put the issue squarely up to us — sell us tasty, mature fresh produce or we'll buy it canned, frozen, or dehydrated.

THE SIXTH SENSE - VALUE - PRICE

In the marketing of fresh fruits and vegetables, as in the selling of anything, the tricky sixth sense is constantly at play. Like a humming computer it is constantly evaluating what a customer sees, touches, tastes, smells, and hears in relation to the price she is asked to pay. Is it a value? Does the quality add up to a "BUY?"

Our merchandisers give more time and serious thought to the creation of a value and to price setting than may be readily apparent. What price will have the maximum appeal, attract the most traffic, trigger the greatest impulse reaction, move the most tonnage, register the highest sales, net an adequate return in profits? Let's face it — setting the price, creating the value — starts with buying.

In the produce industry the creation of a value in the customer's mind is frustrated by more frequent cost price changes, bigger fluctuations, more erratic and almost incomprehensible variations than any other segment of the food business.

Ground beef ranging generally 49 cents to 59 cents a pound is readily evaluated by a customer, as is round steak, rib roast, and pork chops. But how can the merchandiser create or the customer recognize "value" in head lettuce which fluctuates from $1 f.o.b. to $2.25 and back down to $1.25 in a week's time? That means a 10- to 20-cent range in cost — 2/25 cents to 29 cents probably retail variation.

In four days this fall Tokay grapes ranged from $3.50 to $2 to $2.50. They held at $2.25 but based on quality were worth $1.75. That's a range of 8 cents to 13-1/2 cents per pound on an item worth about 6-1/2 cents. Try to create for the customer a recognizable "value" out of that as a merchandiser should living with the economic facts of his operation as he must. There must be a more practical way than this of triggering the customer's sixth sense.

The age of local produce markets in cities all over the country, the age of major consigned shipments, the age of the auction is dying fast. In this age supply was the major arbiter and bidding set the ceiling on price. With today's high investment cost in land and machinery, the customers' demands for quality, and the marketing pattern converging on shipping points and producing areas, a more reasonable, more stable, more predictable price approach to marketing seems inevitable. With investment costs known or predictable at time of planting, and with the size and quality of the crop accurately computed close to the time of harvest, it should be possible to set a marketing price to provide adequate return on investment for the season.

Perhaps more income could be assured for the grower by marketing the Phoenix or Salinas lettuce crop at a price — also the Texas carrot crop, the Georgia watermelons, the Eastern peach, the Idaho potato. Certainly this might necessitate more unity among growers in an area and perhaps among areas in a geographic region. We seem to be pointed in this direction. There could be much to gain by planning the course and setting the speed rather than just drifting by chance to this ultimate goal.

We see this cost price situation as a definite and important factor in quality maintenance. It can and does at times result in:

1. Harvesting too early to get the quick high dollar.
2. Harvesting of over-mature products to garner the last buck.
3. Holding of crops at their prime to push the market up but at the cost of quality.
4. Grading to the letter of the grade standards, or sometimes borderline grading to spread the dollars.
5. Holding over-age or inferior product in storage, even CA storage, for the late season and hoping for the higher price.
6. Constant pressure for the lowest possible level of price, rather than fair prices based on quality, quantity, and investment.

Certainly there are many other factors in quality and maintenance than have been discussed briefly in these remarks. But we see these as very important.

Today's customer is more sophisticated than ever before in demanding quality in her fruit and vegetable purchases. She want products better graded by size and shape.

Today's customer is color conscious, she doesn't like Golden Delicious that look like Greenings or Red Delicious that look like McIntosh. She uses color charts to decorate her home and thinks we can make more use of our own color guides or come up with better ones.

Today's customer is a gourmet. She savors the tasty maturity of a product as never before and will either get it or withhold her cash. She is not about to serve her family or guests with anything but fragrant peaches, ripe honey-dews, and mature tomatoes. As far as she is concerned its up to us to provide the technological improvements such as compartmented refrigerated trucks or cars necessary to do the job.

Today's customer is, as she has always been, the thrifty homemaker. She can readily evaluate or sense out a "buy." When produce prices roller coaster up and down erratically she will simply sit back and wait until her value sense, like radar, tells her to buy. She would buy oftener if produce prices made more sense.

Sales by Quality - Value - S.B.Q.V. Let's add another S. - S.S.B.Q.V. - Sales Saved by Quality - Value. That's how important quality is to us.

THE ROLE OF ASSEMBLY MARKETS

Loyd C. Martin
Economic Research Service
U.S. Department of Agriculture

The role of assembly markets has confronted the fruit and vegetable industry for some time and will continue to nag us in our research, service, and educational programs.

I view an assembly market in an economic sense. I want us to think of the economic function to be performed rather than the facilities for performing the assembly process. Some of the changes in the structure and organization for marketing fruits and vegetables have been drastic. It is not news when we suggest that the structure of marketing fruits and vegetables has changed at all levels from the producer to consumer These changes continually take place and it is usually some crisis (such as a strike as occurred in the California tomato industry or as the trouble with residues which occurred in the cranberry industry) before action is taken.

Some of these needed adjustments are not so easily made in agriculture as in other industries. Ralph Bunje and Frank Bennett pointed out the need for fruit and vegetable producers, shippers, handlers, and processors to work together in developing sound and useful marketing programs and policies. The assembly market can be a hub around which these programs are developed. We in this workshop have a big job to assist, consult with, and provide useful information concerning alternative courses of action which producers might consider in their efforts to adjust to these changes with the least amount of difficulty.

Many problems arise in assembling produce for sale and shipment. In today's market there are fewer buyers and each demands a larger quantity of a more uniform quality product than many sellers are able to deliver. These buyers want more price stability. Producers intrepret this to mean that they want the prices stabilized at a lower level.

Another important point is that changes in these demands of buyers require changes in production as well as in the assembly operations. These adjustments in market structure and organization have not been fast enough at shipping point to keep pace with the changes which have taken place at the wholesale and retail levels.

The crux of this problem of the role of the assembly market results from the increased specialization in production which has resulted from the intense efforts of the more progressive firms to reduce their costs, and the slowness with which new technology has been adopted in the marketing process.

Specifically, what are some of these changes? In a study by the Marketing Economics Division, ERS, of changes in wholesaling fruits and vegetables, we found that direct purchasing by chainstores and affiliated groups amounted to about 27 percent of total market receipts throughout the country in 1958. This compares with 12 percent in 1936. The National Food Chains reported that they buy directly through their own buyers about 70 percent of their total supplies of fruits and vegetables.

The regional chains are not large enough to maintain so extensive a field buying staff as the national chains. However, they buy about one-half of their fruits and vegetables direct from shipping point. Of these direct purchases — about 45 percent through their own buyers, another 45 percent by telephone, and the remaining 10 percent through buying brokers at shipping point.

Local chains report purchasing about 30 percent direct from shipping point — about 2/3 by telephone, and the other 1/3 through buying brokers.

Mixed load shipments is a change which no doubt will bring more direct purchasing by buyers who cannot use a full load of one commodity. A very important change in the role of the assembly market has been the shift of the price formation process to producing areas. The reduced volume of fresh fruits and vegetables going through the traditional wholesale market and through the terminal auctions has brought this shift. Are we giving sufficient attention to improving the price information at shipping point in our research, service, and educational programs?

We can expect further increase in direct purchasing, but probably at a slower rate than since World War II. This suggests a continuation of the trend toward fewer but larger firms and markets at shipping point.

An increasing proportion of certain of our fruits and vegetables will be handled in bulk — either in palletized boxes or in bulk trucks and trailers. The increasing cost of labor will speed up the adaption of bulk handling and other technological developments. More rapid transportation together with larger quantities of our produce going to canners and freezers suggests that shifts to bulk handling will be made where there are economies? Are our grade standards and inspection procedures ready for bulk handling and shipment? Do we need changes in Federal and State laws and regulations governing bulk shipments?

We shall witness these changes and our job is to assist in bringing them about as efficiently as possible. This will require close cooperation and coordination of the research, service, regulatory, and educational work as we serve the fewer firms making up the fruit and vegetables industry. The Marketing Economics Division of the Economic Research Service stands ready to assist in this task.

GRAIN

EFFECTS OF TRANSPORTATION CHANGES ON THE MOVEMENT OF GRAIN

J. C. Winter
Agricultural Marketing Service
U.S. Department of Agriculture

For many years the railroads and railroad freight rates on grain and grain products were an integral part of grain marketing. Grain is bought and sold on very narrow margins, and what might be regarded as minor changes in rates historically has influenced the marketing channels through which grain is moved. Railroad rates set the pattern, because until recent years that was the way it moved, except for the then rather small amount of barge traffic on inland rivers and the lake movement from western to eastern Great Lakes ports.

But that integral relationship of freight rates and grain marketing has suffered erosion since the end of World War II. Grain rates of railroads doubled in the following 10 years. Greater availability of motortrucks and improvements in highways made trucking of grain profitable, and improved waterways and the expansion of barge services on the inland rivers took their toll of the grain tonnage of the railroads.

As early as 1952 we found that about 25 percent of the grain in the Southwestern States, Texas, Oklahoma, and New Mexico, was moving to market by truck, and I believe that percentage moved higher in subsequent years. A study made by the departments of agriculture of the Southeastern States indicated that in 1955, as much as 80 percent of the grain moving among those States was transported by motortruck. However, with a lower level of rates in the North Central States, only a small percentage of their grain was moving on the highways.

But with the rate increases of the mid-50's this, too, changed. It was found in a survey we made of the transportation of grain in North Central States in the year 1958, that 30 percent of all "free," or nongovernment grain originated at country elevators in that area moved by motortruck.

Percentages of movement by truck varied widely among the grains, from corn and soybeans at 40 percent and oats at 32 percent, down to 14 percent for wheat and only 7 percent for barley. There was a good reason for the difference between corn and wheat, the two major crops. Wheat is primarily a food grain for human consumption, and the trend of movement follows the established rail pattern to terminals and mills. Corn, used chiefly for feed, moves every which way to feeding areas, in ways that the railroad rate structure was not designed to meet.

We found that service also played a significant part in diversion of traffic from the railroads. Fast and dependable deliveries of feed grains by motortruck, sometimes for long distances, are used by many feed mills as a means of maintaining inventories at low costs.

On shipments from the country elevators in North Central States to destinations in other areas the relative movement by motortruck is even heavier than on shipments remaining within the area. For example, 58 million bushels of corn moved by truck to Southeastern States, 95 percent of the combined truck and rail movement from the North Central region to the South. This was by far the heaviest inter-area truck movement. This movement was direct from country elevators to destinations outside the North Central area that did not move through any terminal market.

A similar trend is evident in barge movement of grain on the inland waterways. There, grain tonnage increased from 2.9 million tons in 1949, to 5.4 million tons in 1957, an increase of 87 percent.

Now, what do these changes in transportation methods mean in terms of the marketing of grain? The pattern is not yet clear, but several developments seem pretty well established.

1. The primary emphasis of change has been in the feed grains.

2. A substantial volume of the feed grains shipped by truck (and sometimes by barge) bypasses the terminal markets.

3. In the past 15 years the merchant trucker, who buys grain from a country elevator or farm and hauls it to a feeding area or mill for sale, has emerged as a factor in grain marketing. Many feed mills in the South and Southwest rely on this type of operator for their supplies. I should point out that this is entirely legal and not in violation of the Interstate Commerce Act, buy only because the transportation of grain by truck is exempt from economic regulation. If the exemption should be repealed, this practice, as well as hauling grain and other agricultural products for hire without an ICC certificate, would become unlawful.

4. New and fairly extensive grain handling facilities have been built to handle river traffic.

5. There has been a tremendous increase in country grain storage capacity in the heavy grain producing areas. This increase is probably attributable primarily to other factors than transportation, but the result is that these millions of bushels of new capacity provide reservoirs of grain held back in the country far beyond the harvest period upon which motortrucks may draw throughout the year for movement to feeding areas.

In the meantime there has been no significant increase in terminal grain storage capacity except those elevators which have been built or expanded for the transfer of grain from land to water transportation.

Transit privileges, although still of importance in grain marketing, are no longer a guarantee of security that will hold grain traffic to the rails. There is considerable evidence that, with lower truck and barge rates available, transit is considerably less important than it used to be. One such evidence is the fact that some of the grain rate reductions made by the railroads carry restricted transit privileges or permit no transit at all.

There have already been changes in the location of grain storage, as I have pointed out, and a dispersion of feed mills into consuming areas. It would appear that this trend would be accentuated by reduced railroad rates without transit, or rates on the raw grain lower than those on grain products.

As I see it, the big question is, "What are the railroads doing and what will they do, or be permitted to do, to halt and reverse the diversion of grain away from their rails?" One thing many of them have done is to reduce their grain rates. In some cases these reductions have returned some traffic to the rails. In others they have been nominal and have not done much to return the lost traffic.

The most interesting effort in this direction has been that of the Southern Railway which has proposed very heavy reductions in rates to points on its lines in the South on grain moving in lots of 5 or more specially built covered hopper cars whose capacity is more than 1-1/2 times that of boxcars.

The grain rate reductions of the Southern have been suspended by the Commission upon request of contesting parties; the matter is under investigation; and the Department of Agriculture is an intervenor in the case. Under the circumstances it would be inappropriate for me to undertake to discuss the merits of the proposed rates. I do think I may offer my private opinions concerning the problem of grain transportation in the country generally: First, that railroad rates on grain are too high to hold the traffic; second, that this is one of the major reasons for their loss of grain tonnage; and third, that the acquisition of covered hopper cars of high load capacity affords a means of enabling them to reduce rates on grain substantially and still handle the traffic at a good profit. Our economy is dynamic, not static. Change must be met with change as the price of survival, in transportation as in the agricultural industry and in other businesses.

In the meantime there are likely to be more shifts and changes in the location of facilities where grain is stored and processed. A revolution in grain transportation and marketing is underway. Could it be as revolutionary as the changes that have taken place in agricultural production, in farm living, in the marketing of other farm products we have seen during our lifetime that have made this country the most efficient producer of food and farm fiber the world has ever seen? We should meet and welcome change and look upon it as opportunity for improved efficiency, growth, and increased productivity the country needs for the continued prosperity we all hope for.

I have been happy to see the interest being taken in transportation matters by many of the State Departments of Agriculture. It seems to me that over the years of my contact with agricultural transportation matters, transportation has become of increasing importance to agricultural producers. Production research and Extension have increased the production of our farms and orchards in fabulous fashion. In ability to market we have not done so well, and transportation is the backbone of marketing.

Several of the State Departments of Agriculture now employ transportation consultants to work on problems of better service and facilities, equitable rates, and to look out for the transportation interests of the State in legislative matters. Groups of States with common interests working together can multiply their effectiveness in this area. The Transportation Committee of Southern States is a good example of a most effective program of this kind.

To those States which do not have agricultural transportation representatives, I most earnestly recommend that they seriously consider acquiring them.

GRAIN MARKETING CHANGES AS VIEWED BY THE MILLER

Carl C. Farrington
Archer-Daniels-Midland Company

Grain millers, particularly wheat flour millers, are vitally concerned with, and affected by, changes in grain marketing. Recent changes in rates and modes of transportation have greatly changed the geography of flour milling and distribution. Varietal improvement and maintenance of quality of wheat and of flour constantly engage the attention of grain processors. Recent and impending changes in the measurement of quality of wheat are giving flour millers great concern at this time.

During the first half of this century the flour milling industry underwent a radical shift from small local mills to large commercial plants. Flour and meal producing mills declined from more than 10,000 establishments to less than 1,000. The commercial milling industry that emerged was based largely on rail transportation. Milling-in-transit privileges and equal rates on grain and grain products were basic considerations in the location of plants and the marketing of the products. Transportation changes that have occurred in recent years, largely the last decade, are now bringing about rapid shifts in the flour milling industry. The availability of barge and truck transportation at low rates has disrupted the historic pattern of flour milling and distribution. Rail rate adjustments that have been made to meet barge and truck competition often have been on a spot, or piecemeal, basis and have not in many cases provided equal treatment between grain and grain products.

Flour mills are being built along waterways and near centers of consumption, while mills are being abandoned and dismantled in and near wheat producing areas. Almost daily we see announcements of new mills being built in countries that have been traditional U.S. flour markets, and announcements of plans to build or expand mills on the Upper Tennessee River, Upper Ohio River, and in Los Angeles. Facilities are being installed for movement and handling of flour by barge — both bagged and in bulk. Bulk handling of flour and millfeeds by airslide cars and trucks from mills to consuming establishments is rapidly supplanting the traditional movement of these commodities in bagged form in boxcars.

The flour mills of this country are pioneering in, and rapidly adjusting to, these changes in transportation of grain and grain products. But such adjustments can be made only at substantial cost and disruption to management, to labor, and to stockholders.

The wheat millers of this country for many years have devoted a great deal of time and money to efforts to improve the quality of wheat grown in the U.S. They have been major supporters of State and regional crop improvement committees and organizations devoted to encouraging the development and adoption of improved disease-resistant varieties of wheat.

Flour millers from time to time have recommended changes in wheat grade standards — particularly changes designed to minimize dockage and foreign material in wheat and discourage mixing of classes of wheat. Some, but by no means all, of the millers' recommendations were adopted in the changes made some 4 or 5 years ago.

Our natural desire as buyers is to have tighter wheat grade standards. This desire is tempered, however, by our recognition that (1) frequent changes should be avoided since grain grade changes may be disruptive of our intricate competitive system of grain marketing involving, as it does, both cash and futures markets; (2) wheat grown in this country includes a multitude of quality characteristics and wheat grades must accommodate and facilitate marketing of the entire range of qualities grown and marketed; and (3) volume handling of grain necessitates rapid inspection and limits the adoption of many refinements of quality determination that might be desirable from the standpoint of particular users or groups of users.

In closing I would like to direct attention to Government grain marketing policies. In the case of wheat, considerable progress has been achieved during the past five years as a result of (1) the subsidy-in-kind wheat export subsidy program adopted in 1956; (2) the use of cash export subsidies on wheat flour, and (3) the shift of cash purchasing of flour for the donation programs.

As a result of these improvements in the Government program, nearly all of the wheat for domestic use and most of the wheat for export flows through private competitive trade channels. We hope there will be no reversal in these favorable trends. Thus far, wheat has not been subjected to the high-loan, low-market price procedure currently being used on corn and grain sorghums. This procedure is not only very costly to taxpayers — it also tends to force much more grain into Government ownership and to stifle private competitive marketing of grain. I hope this procedure will not be long continued in feed grains and that it will never be used for wheat.

GRAIN MARKETING CHANGES AS VIEWED BY THE COUNTRY AND TERMINAL ELEVATOR OPERATOR

Benjamin S. Jaffray
Cargill, Inc.

The agricultural sector of our economy, especially that portion pertaining to grain, may indeed be going through one of its most critical periods. Whereas many believe sincerely there is a serious threat to our existing marketing mechanisms, I personally consider this period one which offers us a great and challenging opportunity to prove the tremendous value of our marketing system.

Before analyzing specifically some developments and trends in grain marketing, both at the country and terminal elevators, let us briefly redefine our business and review how we have progressed in recent years. Basically, the grain industry is almost entirely concerned with the movement of feed and feedstuffs from growing or production areas to consuming areas. When we acknowledge this definition, we are immediately recognizing that there are vast differences in production, marketing, and transportation capabilities in various areas of the country. Our primary responsibility, then, is to provide a cash market for the farmers' harvest and, in so doing, assume the risks and responsibilities of financing, storage, locating customers, markets, and shipping this produce as it is needed. Grain is still the basis for life throughout the the world, and the well being of the agricultural sector of the economy determines to a large measure the well being of the country as a whole.

Fulfilling our responsibility is an interesting and challenging task. Farm production, unlike factory production, is not spaced evenly through 52 weeks of the year but comes all at once during the few weeks of the harvest period. The problem of moving the produce along marketing and processing channels to 180 million plus domestic consumers and expanding world markets was solved by a natural economic evolution using the tools of the grain trade with the support of many of the agencies represented here today. The net result of this evolution was an efficient and as low-cost a system of marketing that has ever been developed. Recently, the U.S. Department of Agriculture indicated that the total cost of transporting and marketing wheat from the producer through the intermediate steps of the country and terminal elevators and on to the miller amounted to 1.7 cents per dollar, or less than 1/2 cent per loaf of bread.

Let us review the marketing and the transportation of what we will call cash grain and how this process is aided by the use of grain futures.

In the early days of the U.S. grain business, that is from the late 1700's to the beginning of the Industrial and Agricultural revolution in the middle 1800's, it was not unusual to find grain prices varying greatly even within a few miles. At the peak of the harvest, it was often impossible to find buyers prepared to pay even the lowest price for farm commodities and good prices could only be obtained many months later. In such a situation, realistic prices were seldom paid to farmers, but instead, they were paid mainly to those dealers and warehousemen who were able, both physically and financially, to carry the grain at its depressed value until marketing conditions improved.

The development of railroads, inland waterways, highways, and the migration of people to the West accelerated the Midwest's dramatic expansion in agricultural production which growth completely outmoded the primitive type of marketing which heretofore existed. In Minneapolis, Chicago, Duluth, St. Louis, Milwaukee, and Kansas City privately owned terminal elevators provided the greatest concentration of grain. There developed grain exchanges and grain boards of trade in these cities to provide organized marketplaces for buyers and sellers. The first of these exchanges established was the Chicago Board of Trade which began to function in 1848.

Grain exchanges began to bring order and substantially better ethics to the vast business of moving the grain wealth of this country. The general purpose of these exchanges as expressed in their charters was to provide an organized marketplace for buyers and sellers; to collect and disseminate market information; to adjust controversies between members; to provide uniform rules and standards; and to establish just and equitable principles of trading.

In the beginning, most of these exchanges were only spot or cash markets for grain that had actually arrived or was stored closeby. After a few years, business was also being done on a "to-arrive" basis. Trading in contracts for future delivery was soon found to serve a real need for greater year-round stability, and it began to to be formalized according to specific types in grade and grain and also according to delivery within specific months. The futures trading function has put our various exchanges into a role that is vital to every segment of the economy — producers, processors, consumers, and even the Government. Unlike the old system of boom or bust, the futures markets operate to give farmers and processors access to all of the foreseeable demand that is brought to light by the estimates of hundreds, or possibly thousands, of interested and active parties. Futures markets assure the farmer of the benefit of all demand available throughout the year, and it assures the consumers of farm produce at a price that is based upon the total grain supply available.

Whereas all of us in the grain trade are optimistic about the future development of the grain industry, our success at home and abroad will depend primarily on the basic efficiency of our production and marketing assets and our merchandising abilities. Existing free markets for both cash grain and grain futures using the tools of supply and demand in relation to price compensate for the wide variety of factors involved. Historically, price has been and will continue to be the instrument through which markets accomplish the remarkable feat of moving desired farm produce into consumption channels with a maximum return to the producers without shortage and without a burdensome carryover.

The interworkings of supply and demand, using this tool of price, have caused production and marketing patterns both for grain and livestock to change significantly during the last few years. The Southeast and South who, historically, depended almost exclusively on cotton, tobacco, rice, and peanuts are switching increasingly to the production of grain and livestock. This new competition from the South, Southeast, and also the far West in the grain and livestock markets, coupled with the proximity to the consuming markets that some of these areas have, has caused some of the northern territories to strengthen their operations substantially.

Within this framework, the country elevator has been changed from a relatively simple business to an increasingly complex marketing and storage entity called upon to give local producers the benefit of all available demand. Most of these elevators have strengthened their contact with various domestic markets, have vastly increased storage, and are called upon to provide a multitude of additional functions in serving the farmers' needs. Many of these elevators, however, have expanded storage capacity beyond any economic logic. In many cases, this expansion took place on the assumption that there would continue to be substantial amounts of surplus grain for storage or, if not, local area production would allow continued use. This year, a large part of the country elevator sector of the industry has been disappointed on both scores.

Nevertheless, these elevators have improved their grain originating and marketing abilities and are doing an excellent job of servicing the consuming industries. Paralleling the growth in country elevators has been the growth in export handling facilities. I think it is significant to note, however, that all recent terminal expansion has either been for the storage of surplus grain, has been in conjunction with a processing facility, or has been constructed to handle export grain. An analysis of United States grain exports during the last five years will clearly emphasize why and where much of this expansion has taken place.

GRAIN EXPORTS
(In Millions of Bushels)

	1955	1956	1957	1958	1959	1960
Atlantic	219	278	234	182	168	175
Gulf	218	285	296	423	510	551
Lakes	---	12	26	30	138	151
Pacific	105	192	224	171	156	205
Total	550	766	779	806	973	1,083

Atlantic as Percent of Total	39.8	36.3	30.0	22.6	17.3	16.2

It is evident that most of the growth in United States exports has been at the Gulf and on the St. Lawrence Seaway. I think it is realistic to assume that this trend will continue primarily because of the economics of grain production and grain transportation favoring these outlets. Further development of navigable waterways in the Pacific Northwest, such as the project for the Snake River, could improve volume from the Pacific. Additional growth of Atlantic grain exports is not as easy to predict. There is only a limited amount of grain geographically tributary to the East Coast, which fact limits sharply Atlantic potential. In addition, a combination of increased domestic consumption of grain in Eastern areas, coupled with legislative restrictions which may not allow Southeastern areas to fully realize their inherent efficiencies in grain production, aggravate this situation. The St. Lawrence Seaway does have a definite draft limitation. As many of you know, the controlling draft of the St. Lawrence Seaway is the present depth of the Sioux St. Marie locks of 23 feet, 10 inches. Sometime in 1962, this will be increased to 27 feet, which will allow loaded draft of 25 feet, 6 inches. At the same time, there is an increasing trend for larger vessels drawing from 30 to 40 feet, which trend will result in an improvement of the abilities of the deep water ports of the Gulf and the Atlantic to compete with the Seaway.

I think that most of us would acknowledge the fact that United States grain exports will continue to increase as long as the grain industry is given a chance to compete with our worldwide competition. To be sure, much of our billion bushel total is subsidized. This year, for example, wheat exports could reach 700 million but a subsidy of 50 - 75 cents will be required to bring supported prices in line with world levels. The question we must ask ourselves is will we eventually be able to compete in world wheat markets without extremely high supports necessitating an extremely high subsidy. I am certainly not a wheat expert, but it is very definitely my impression that there are no wheat producers in the world more efficient than in this country. Let us suffice to say, however, that much of our export demand today depends on various Government programs of which there are two general types. The first is the so-called subsidy programs which are necessary to reduce the supported price of United States grain crops to world levels. The second basic type of program is our financing programs which are designed to overcome dollar shortages throughout the world. I think that through the subsidy and kind programs, export demand is a stimulus to domestic markets which would not exist if exports were exclusively from Government stocks. The subsidy in kind program allows the full utilization of this grain marketing system of ours which means that producers, the Government, and the ultimate foreign buyers, are allowed to take full advantage of our efficiencies and the individual ingenuity and initiative of the participants in this remarkable process of marketing.

In addition to the price factor and the basic mechanics of handling export sales, the considerations of quality and service are also very important.

1. Quality complaints: I think it is reasonable to state that the Official Grain Standards of the United States plus supplemental laboratory analyses of various factors, such as protein, enable grain buyers to obtain whatever quality or combination of factors desired for their purposes. We must recognize, however, that grain buyers, although obviously aware of their requirements, are also good businessmen and will try to buy the best possible quality at the lowest possible price. In pursuing these objec-

tives, especially within the framework of subsidized export programs and worldwide competition, there will naturally be complaints of quality and service not based on fact but rather on a desire to improve price, quality, or service.

2. Service factors: There continues to be a trend toward larger vessels with increased operating costs. In order to accommodate these vessels with maximum dispatch there have been substantial improvements made in our export loading capacity in this country. There have been similar improvements made in the discharging parts of the world. It is essential that we continue these developments.

3. Market confidence: One of the greatest problems in export grain marketing in the last year has been the often total lack of confidence in United States grain prices in the minds of foreign buyers. If the free market system were allowed to operate, European buyers would have access to the same economic factors used by the sellers in arriving at a price and they would therefore have greater confidence in making both short- and long-term purchases of United States grain. Grain market prices, although subject to a wide variety of factors many of which could be construed as acts of God, are, nevertheless, predictable. To the extent, however, that grain prices are determined by arbitrary or bureaucratic authority without regard to the economic factors present, there can be no predictability and, therefore, there can be no real confidence in United States grain prices.

4. European common market: There have been many articles published recently concerning the effect of the European Common Market on United States grain exports. Europe continues to be deficit in strong wheats and should continue to provide an expanding market for United States feed grains. It is essential, however, that we preserve a realistic pricing policy to avoid the loss of this valuable outlet.

Our industry has the tools both at the country and terminal level to provide the farmer or producer the best possible price and to move our agricultural abundance efficiently to consumers at home and abroad. The salvation and development of this system, however, depends on a free and competitive market. Let us all work to take advantage of these great assets.

HOW A COMMODITY ORGANIZATION MAY IMPROVE FOREIGN MARKETING OF GRAIN

William H. Crotinger
Great Plains Wheat, Inc.

Nowhere have the advances of technology been more swift or more startling as on the Nation's wheat farms. In 1960, national yields averaged about 26 bushels per acre, compared to the previous 10-year average of 18-1/2 bushels per acre.

But while we have made great progress in solving problems of production, we have not done so well in marketing. It is unfortunate that the world's areas of greatest food production do not coincide with the areas of greatest need. Thus, we can see that the wheat surpluses — which many have criticized as scandalous — are not really surpluses when considered from a global standpoint. In fact, our surpluses could easily turn into shortages if there was a way of translating world food needs into an effective demand.

The important role of wheat was demonstrated during and immediately after World War II. Faced with a seemingly unlimited demand for food, United States wheat farmers produced a flow of food that prevented mass starvation and stalled the spread of Communism. In this critical period, our wheat exports maintained bread rations while the world recovered from the crippling effects of a world war.

As recovery took place, our wheat exports dropped sharply — not because there was less demand for food but because needy nations lacked the exchange necessary to import food supplies. The Agricultural Trade Development and Assistance Act of 1954, commonly know as Public Law 480, marked an important turning point in American agricultural history.

While there were short-range, surplus-disposal aspects of the bill, it also encompassed two new concepts. First, it recognized that the United States could use its agricultural abundance to raise the world's living standards by providing that surplus farm commodities could be sold overseas for "soft" currencies. Thus, newly developed nations are able to secure needed food, and a considerable part of the currencies received in payment is turned back to these countries in the form of loans and grants to be used for industrial and economic development.

Second, the bill offered a unique opportunity for commodity groups to share in a cooperative effort to build permanent dollar markets for United States farm products. A small share of the foreign currencies resulting from Public Law 480 sales are made available to commodity groups through contracts with the Foreign Agricultural Service of the U.S. Department of Agriculture.

The Oregon Wheat Growers made the first breakthrough in organizing a farmer-financed, farmer-controlled organization to develop new markets for wheat. In 1947 they went to their legislature and asked for the establishment of a wheat commission to which every grower in the State would contribute one-half cent per bushel. Later this pattern was followed by six other States: Washington, Idaho, Kansas, Nebraska, Colorado, North Dakota, and during this past year South Dakota joined the ranks. The levies in all of these States range between two and five mills per bushel.

In the Great Plains region the States of Kansas, Colorado, Nebraska and North Dakota have incorporated under the name of Great Plains Wheat. In the Pacific Northwest, Washington, Oregon, and Idaho have united under the name of Western Wheat Associates.

Only recently have we begun to realize the potential value of foreign markets as an outlet for American farm products.

Traditionally, American agriculture has not been export-minded. We have been completely absorbed with the domestic market and considered the foreign market as only an escape valve for temporary overflows. But as our productivity continued to grow, the foreign market became more attractive. Over the years, we were in and out of the wheat export business, while other competing nations such as Canada carefully built its position in world trade.

We are presently exporting two out of every five bushels raised. Perhaps we should be thinking in terms of exporting three out of every five. When we achieve this goal, we will have solved the problem of our present surplus production on the acres now farmed to wheat. Surely, the United States has the knowledge, the skills, and the individual initiative to export its production in the markets of the world. Through research and the application of mechanization and sound agricultural practices, we have solved our food needs. Let us now endeavor to apply the same resources to win the battle of marketing. If we can produce, surely we can merchandise and sell.

In production, wheat farmers have become the victims of their own efficiency. Marketing is the challenge today.

Under P.L. 480, a small portion of the currencies received in payment is set aside for market development. This one section of the bill offers growers the unique opportunity to share in the cooperative effort to build permanent dollar markets for U.S. farm products. Some of these foreign currencies thus generated under P.L. 480 are made available to commodity groups such as Great Plains Wheat through contract with the Foreign Agricultural Service. The wheat market development organizations of Great Plains Wheat and Western Wheat Associates in the Pacific Northwest have made extensive use of this provision in their overseas program. Working in close cooperation with FAS, these groups can use foreign currency to finance much of their market development program. The dollar costs are again met by this tax on wheat producers. Great Plains Wheat in cooperation with FAS is providing a valuable program in over 60 countries throughout the world.

The activities carried on by the wheat organizations falls generally in two categories: market research and education programs. Here are specific examples of these various types of activities. Market research is the initial phase in developing foreign markets. Survey teams have been sent to specific areas and their reports have served as a basis for developing additional programs. Samples of U.S. wheat have been submitted to newly constructed mills throughout the world. Milling specialists have been sent to these new mills to assist these millers in the proper use of these wheat products.

Under the heading of education is the nutrition education program now in operation in several countries. One of the effective programs consists of bringing representatives or trade teams including foreign buyers, millers, bakers, and others to visit the wheat industry in the United States. When these foreign teams return to their respective countries, they return not only as good friends of the United States, but also very favorably inclined toward increasing their purchases of United States wheat. Trade Fairs also offer another opportunity for not only participation and introduction of new food and food products throughout the world, but for utilizing techniques which have been used throughout the centuries for the introduction of new commodities. Other activities being utilized by wheat producer groups include the printing of pamphlets in foreign languages as well as furnishing movies developed specifically to carry a message to these people in these foreign countries.

When Great Plains Wheat came into existence it was decided that the first job was to secure all the information possible about the market demands and needs in these foreign countries. After consultation with FAS, regional offices were set up in many areas.

In order to settle the conflicting reports as to how the United States wheat exports compared with those from other exporting countries, a project was set up to sample cargoes of wheat in Western Europe and South America. These reports show that the United States wheat has not compared favorably with that from many of the other exporting countries.

As Great Plains Wheat delved deeper into the problems faced by wheat growers, it was found that additional information was needed. One of the greatest handicaps currently being faced was high transportation rates especially when compared with our position as regard to our competitors, Canada and Argentina. For that reason, much effort has been devoted to this subject. Wheat export rates to the west coast from western Kansas, western Nebraska, and Colorado have recently been reduced from 98-1/2 cents to 82 cents per hundredweight. Rates to the Gulf have also recently been sharply reduced. Further activities in this field have included the opposition to certain railroad mergers which it is believed if consumated, would greatly reduce competition.

Grain marketing systems throughout the world are going through a period of major change at this time. About a quarter of a century ago, various governments began experimenting with state trading monopoly. This was of special importance to the wheat industry because that commodity is a favorite target for state control. More barriers have been raised against the international movement of wheat than any other single commodity. In one country after another, government boards have been set up as the only agency to buy and sell wheat.

What chance does the United States wheat farmer have as an individual in the world's market competing against state trading monopolies?

In a world of state trading, the United States is the only major wheat exporting country in which a privately owned grain trade operates. Will it be able to survive in competition with state operated marketing systems in other lands with their hidden subsidies such as government operated railroads and even payment of management from the general treasury?

The United States again is challenged for they now have an opportunity to show the superiority of a privately owned grain trade. Freedom for trade must be maintained, yet the United States must work to achieve a higher level of total exports.

Wheat growers in the Great Plains areas believe freedom of trade can be achieved by the successful development of new markets. Wheat growers are now taxing themselves to help create a favorable climate in which the United States private grain trade can sell wheat. Grower controlled wheat organizations are not involved in direct sales, but are interested and intend to see to it that when a new market is developed, the opportunity to buy United States wheat within the wide range of quality will be available in that market wherever it might be.

The challenge we are facing today is that of achieving a really higher level of wheat exports. Great Plains Wheat is interested in examining our current marketing system to see if it is equipped today to handle not only quantities but the qualities of wheat demanded by the overseas trade.

As we venture in this international age of agriculture, we must not be disenchanted by illusions with which we are faced or the problems and hazards which we encounter. Our production in this country could have discouraged us, but the agricultural leadership in the Great Plains area was not faint hearted. They have accepted the challenge and are willing to venture into this new age. One of the disillusionments which will be faced by the people carrying out the foreign policies and the aid program of the United States will be this, agricultural advancement carries with it many difficult adjustments. We know this very well in this country; we are making an adjustment today in endeavoring to increase our world exports. Shifts in population and changes in land use, are the birth pangs of progress and cannot be averted. Intelligence, properly applied, can diminish the impact of these problems but we must make use of what we know to date. Just meeting the needs of these newly emerging nations is not enough; the material needs, the loaf of bread that might be needed today, or the house to live in will not in itself force them to renounce communism. The mind and the spirit are concerned as well as the empty stomach. Food is essential, but not a sufficient condition for the development for free institutions. Further, we should never fall into the trap of looking on these new nations currently developing as being a solution to the present extensive production of American agriculture. Do not look on this as an outlet which will absorb our production and that our problems here in the U.S.A. will be of but short duration. Let us view these great events currently taking place today as stepping stones; these problems are challenging opportunities.

Agriculture has been propelled in this international age for several reasons; largely however it is a result of unmanaged circumstances and with no real guidance on the part of anybody. The increase of exports in a few short years from the range of 400 million bushels to the expected exports this current year in excess of 700 million bushels is truly phenomenal.

From our recent years of accumulated experience in matching the capabilities of American agriculture with the needs of newly developed countries abroad, we must stop to review and re-evaluate our past experiences.

Wheat farmers can and are working to improve foreign marketing of grain. They need your help.

STATE GRAIN MARKETING SERVICE PROGRAMS

William E. Lane
North Carolina Department of Agriculture

The grain marketing service is new in North Carolina but a half century of progress has been made in 10 years. About 10 years ago the grain industry in North Carolina knew little of handling, storing, fumigating, drying, grading, and merchandising grain, but through the use of the grain marketing service offered dealers in North Carolina, we have almost caught up with our western competitors.

What is the need for a grain marketing service program? In North Carolina, grain production has grown from approximately 86 million bushels in 1951, to approximately 130 million bushels in 1961. Another indication of rapid growth is the large number of firms who have gone into the grain business during the past few years. Ten years ago, there were 249 grain firms operating in the State. Today, we have 430. We now have approximately 24 million bushels of commercial grain storage and 15 million bushels of on-the-farm storage. Compare these figures with a total production of 130 million bushels and you find approximately 1 peck of storage for every bushel of production.

Because of this great lack of storage, we lose many millions of dollars each year through insect damage, birds, rodents, rot, and transportation. During harvest time, grain moves in extremely large volumes, and because of the inadequate storage, grain is shipped out of the State by barge, rail, and truck to export houses on the east coast and to domestic mills within the Southeast area. This means we pay transportation out and, then, when our supply runs short, soon after the harvest season is over, we buy grain from the Midwest at much higher prices than our own grain was sold at harvest time. Therefore, we really pay for transportation out of the State and back into the State. This costs producers and dealers approximately $11 million a year. Also, we lose on price rise from the low harvest market to the high market when our own supplies are exhausted. This price rise costs us about $8 million per year.

Losses to insects, birds, rodents, and deterioration, costs producers and buyers approximately $17 million annually. This all adds up to a $36,000,000 loss, which is more money than most grain dealers see in many years. Therefore, a grain marketing service program is needed to help reduce these costs through economic surveys to determine the need for new facilities and the efficient operation of existing facilities.

For many years, moisture was measured by a buyer biting a few kernels of grain and saying, "well, it is all right or it is too wet." This is no longer the case with most of our dealers; moisture is now taken on approximately 75 percent of the grain bought and sold in the State. No longer do we have a hog-round system of buying and selling. Approximately 55 percent of the firms in the State, who handle 3/4 of the State's total volume, do some form of grading. Ten years ago, only 7 percent of the grain marketing firms operating in the State were buying on grade.

Picker shellers came into the corn harvest picture a few years ago and this has intensified our problems in handling, drying, storing, and merchandising. The harvest period, which at one time lasted for many months, has been reduced to only a few weeks — putting even greater strains on our existing, though inadequate facilities. When you add up the millions of dollars lost to producers and buyers each year because of the lack of adequate storage, increased production, and hog-round buying, then you see that a grain marketing service program is a necessity.

How is the grain marketing service program conducted? In cooperation with other State and Federal agencies, economic analyses are made in areas where persons desire to build grain marketing facilities. These grain surveys include: grain production, grain storage facilities, grain prices (cash and CCC loans), total marketable grain, transportation rates, construction cost estimates, cost of operation estimates, estimated possible income, and a summary as to whether this facility would be economically feasible.

Other phases of our grain marketing service programs are: (1) Conducting grain grading demonstrations, and (2) giving on-the-job assistance to grain merchandising on grade. This type of assistance teaches the grain buyer the kinds of grading equipment needed, how to use each item of equipment, the techniques of grade factor determination, and the value of using U.S. Grain Standards in marketing grain.

In addition, specialists participate in county grain schools for producers held in cooperation with the N.C. Grain Production and Marketing Committee. Two district schools for grain facility managers and owners also are held each year. These schools teach more efficiency in management, marketing, operation, and merchandising grain on the basis of grade and quality.

What are the results of our grain marketing service program? Our grain marketing service program is enabling the producers and buyers to reclaim $2.2 million per year out of the $36 million loss per year because of inadequate grain handling, storing, and processing facilities. This is based on a per year average since 1951. Hundreds of thousands of dollars are reclaimed each year by merchandising on a grade and quality basis. Our grain producers are receiving top market prices for their grain. Some of these reasons are:

1. More grain handling facilities.

2. A better knowledge of how to operate a grain and feed processing facility.

3. Remodeling outmoded facilities and putting them into shape to take care of the additional grain being harvested and put on the market in the short harvest season we now have.

4. Merchandising grain on the basis of grade and quality.

Some of these top market prices are rather intangible to the producer mainly because of competition in today's grain markets. For instance, the firm who grades grain and buys and sells on grade, pays 5 to 10 cents per bushel more than the firm who buys on the hog-round basis.

Another result of our grain marketing service program is that firms that had been misusing grading equipment are now using it correctly. The producer was losing considerable money by a simple thing like the wrong shims in the moisture meter. One case to emphasize this point was the use of the small grain roll and shims in the Tag-Heppenstall moisture meter when buying soybeans. This cost the producers 10 to 12 cents per bushel.

Our grain marketing service program can help eliminate these losses through technical assistance to the operators, added storage, and a more competitive market.

How can the grain marketing service programs be increased and improved? In our grain marketing service programs considerable thought should be given to management problems and service to elevator operators in assisting them with a better understanding of the type of management needed to carry on a grain marketing facility. In many cases lack of management is caused not because the people cannot manage money matters, but because they do not understand how to delegate responsibility to others. Also they do not understand the traffic flow problems, advertising responsibilities and necessity, and personnel management. These are some of the phases to which we need to begin giving assistance. In order to carry out a management assistance program to the grain dealers, as it should be, there are many activities that can be done. Short courses in management is one possibility, and marketing specialists to give direct on-the-job training and assistance to managers is another possibility. These men must be specialized in how to manage a grain facility and in personnel problems.

Specialists in North Carolina are working very diligently in developing a marketing program of assistance in management to grain firms. We feel that State departments of agriculture can and should expand services not only to the grain producers and the grain industry, but to the many other segments of agricultural business through management assistance programs.

STATE GRAIN MARKETING SERVICE PROGRAMS

David M. Bartholomew
Kansas State Board of Agriculture

The grain marketing service program being conducted in Kansas by the State Board of Agriculture under the Matching Fund Program pertains only to wheat and wheat products. Thus far the work conducted under this program has been in the areas of market service and promotion, and quality determination and improvement.

The problem involved in this project is the fantastically large supply of wheat in excess of normal use requirements — a problem made worse by reason of declining per capita consumption of wheat products which is partly due to misconceptions that wheat products produce overweight conditions. In addition, the problem is further compounded by the persistent production of fairly large amounts of wheat of less desirable quality factors.

A problem of this magnitude will be solved only by the cooperating efforts of every segment of the wheat economy. Until recently, however, the solution was left to the milling and baking industries and to the Federal Government under its program of crop control, relief distribution of flour, and limited efforts at foreign export market development. No concentrated market development program was attempted by wheat growers until several of the States passed legislation establishing a tax on all wheat sold within their States for the purpose of market development.

Then the wheat commissions of several States banded together into two regional groups for more effective action, one in the Midwest and one in the Pacific Northwest. In certain of the foreign markets where these two regional groups have mutual interest, they are cooperating in a unified program of market development.

The Kansas Wheat Commission was established in 1957, with its only source of revenue coming from an assessment of 2 mills per bushel. Thus far this has amounted to approximately $400,000 per year. The State Board of Agriculture has an ex officio membership in the Wheat Commission, thus participating in all its policy decisions. In addition, the Board has entered into agreements with the Commission on a work level to assume a portion of the responsibilities of market service and promotion.

All printed materials, point of sale materials, etc., used in this program are either printed by the State Printing Plant or are furnished by the Wheat Commission, who purchases them from the American Bakers Association and the Wheat Flour Institute. Most of them come from the latter two sources.

The following outline of activities conducted under the Matching Fund Program is extremely brief and is given only to illustrate the scope of activities included in the program.

I. Domestic Marketing

This category includes market promotion work done in the field of Nutrition Information in Kansas and in other States, and the work done in promoting the sale of a new wheat food product.

A. Nutrition Program - Kansas

1. "Marketing KANSAS WHEAT" - a booklet published for the dual purpose of informing Kansas wheat producers on the subject of wheat marketing and of promoting Kansas wheat in domestic and foreign markets.

2. Nutrition kits to Kansas schools and Home Economists - Nutrition teaching aids were supplied to teachers of Kansas, along with enough copies of some student items to provide each student with copies of each.

3. Film strips of Kansas schools - each of the following film strips were sent to each elementary school having four or more teachers, to become a permanent part of their film libraries:

    a. Your Daily Bread
    b. The Food We Eat - for Kindergarten and First Grade
    c. What's in Our Food - for Second and Third Grade.

4. Film lending library - prints of the following 16 mm. films were purchased for loan to schools of Kansas:

    a. Your Daily Bread
    b. Wheat Foods Around the World
    c. The Color of Health - for Junior High age level.

5. Home economist - with emphasis on the importance of good nutrition and the importance which wheat foods have in nutrition, this specialist presents programs for consumer groups, professional organizations, television, etc.

6. Exhibits - exhibits at fairs, professional meetings, school lunch groups, etc., emphasize good nutrition, which includes wheat products.

B. Nutrition Program - United States

When Midwestern wheat States having wheat commissions joined together to form Great Plains Wheat, Inc., an agreement was reached with the Kansas State Board of Agriculture to expand their Kansas program to a nationwide program.

1. Woman's Club Service Bureau - Four nutrition and recipe booklets were distributed to Woman's Clubs in all 50 States.

2. LIVING for Young Homemakers - a diet and nutrition booklet was offered to the readers of this national magazine.

3. McCall's - a toast recipe booklet was offered to the readers of this national magazine.

4. Florida schools - thru a statewide nutrition program in Florida schools, nutrition kits were sent to each school. To date 25 percent have responded with requests for additional materials.

5. Los Angeles schools - teaching guides for nutrition instruction were placed in schools of Los Angeles. In addition, 250,000 copies of a nutrition leaflet dealing with snack foods were distributed to students in these schools.

6. Other distributions of Nutrition Information have been made to various schools and agencies in every State in the Nation.

7. "The Color of Health" - 40 prints of this movie dealing with nutrition for junior high students have been permanently placed in film libraries of schools in 22 States.

8. Exhibits - exhibits featuring wheat products and their relation to nutrition have been conducted at two annual conventions of the American Home Economics Association.

C. REDI-WHEAT - this new form of wheat food was developed by USDA research laboratories as a possible means of increasing per capita wheat consumption.

1. Wichita Market Survey - Redi-Wheat was first introduced in the Wichita market area and was tested for consumer acceptance by USDA personnel, with the cooperation of the State Board of Agriculture.

2. Statewide introduction - Board of Agriculture personnel assisted with the introduction and promotion of Redi-Wheat in other areas of Kansas.

3. School Lunch - student acceptance of Redi-Wheat preparations was studied in a school lunch test. Demonstrations of Redi-Wheat dishes before school lunch cooks have been successful in establishing the use of this new food product.

II. Wheat Quality -

A. Terminal survey - a wheat quality survey is conducted each summer on carlot wheat arriving at terminal points to determine the test weight and protein amounts of the new crop.

B. Sedimentation testing - this year a survey was made in each county as wheat arrived at local elevators to determine the sedimentation values of protein quality of the new crop. This was experimented in anticipation of the importance attached to this additional method of determining wheat quality.

C. Variety survey - a survey is conducted to determine the percentage of each year's crop which is planted to each variety. Information regarding the desirability of each variety in milling and baking performance is disseminated to farmers.

RESULTS - The downward trend of per capita wheat consumption in the U.S. is being retarded.

Consumers are learning that it is possible to be on a weight reduction diet without excluding wheat products, and that these foods are not necessarily fattening.

Students at all age levels are learning of the importance of including wheat foods in the diet, and are gaining this knowledge at an age when eating habits are formed. Total distribution of all nutrition materials is 2,606,000 copies.

The potentialities of a new wheat food product such as Redi-Wheat are being scrutinized carefully by the food industry of the U.S.

A dehydrated form of Redi-Wheat, known as Bulgur, is being shipped to Asia and South America in the Food for Peace program at an initial rate of 60 million pounds the first year. Cash market possibilities for this product in those countries are rapidly appearing.

Wheat producers are shifting their production from less favorable quality varieties to those more favorable to the milling and baking industries.

STATE GRAIN MARKETING SERVICE PROGRAMS

William S. Farris
Purdue University

Some of the work we are doing with grain and feed marketing firms in Indiana can be illustrated by an example using a labor-saving approach to marketing problems confronting firms in this industry. Our basic approach was to let management know that our main objective was to help them to increase profits. The example features cost reduction as the principal means of increasing margins but it also permitted increased volume of business without a corresponding increase in costs.

Improvement in the use of labor and facilities is not always easy to sell to sales-minded managers as a means of increasing profits. When there is an opportunity to reduce the work crew by one man, sometimes attention can be gained by asking the question "Is it easier to reduce labor costs by $5,000 per year or to increase sales by $125,100 per year?" The profit position for country grain and feed firms would be about the same under either of these conditions. In many instances the vote goes to the labor-saving possibility.

The example has to do with remodeling the physical plant and reorganizing the work in a country elevator and feed mill which was partially destroyed by fire. However, in this instance our role was not to assist in the decision to remodel but, since that decision had already been made, to provide information which would be useful in incorporating labor-saving principles into the new plants. Obviously it is not necessary to wait for a fire in order to incorporate some of these principles. Slight modification of present facilities frequently is rewarding. This firm has sales of about $1 million annually with slightly over half of this amount due to feed sales. A crew of 6 people including the manager operated the business. Business volume has now increased to nearly $1.5 million annually and it is operated by a crew of four, including the manager, and a small amount of part-time help.

The method used to provide management with the information which assisted in achieving these improvements was very simple. Labor-saving principles and their implications in the grain and feed business were made available to the management from printed sources, some from Purdue, some from other States, and some from the U.S. Department of Agriculture. Many of these applications were discussed with the manager together with the estimated costs and possible benefits of each feasible alternative. Here are some of the facilities and arrangements employed by this firm in improving its position:

1. The receiving facilities of the plant included a concrete ramp with truck scales long enough to accommodate most of the vehicles with which the firm expects to do business.

2. Bulk feed loading facilities - the plant promotes bulk distribution of its feed products in order to minimize manual handling.

3. A semi-automatic dial scale with a ticket printing attachment is used to get an accurate and quick record of inbound grain or other feed ingredients, outbound feed, and tare weight. This scale and ticket printer cut weighing and recording time to about 50 percent of that required by the old hand scale.

4. A truck height platform to facilitate sampling grain from the customer's vehicle makes the job easier, quicker, and safer than climbing on to the truckbed.

5. The grain grading equipment is conveniently placed between the dial scale and the outside door to minimize backtracking for this operation.

6. A wide grain dump with hydraulic controls virtually eliminates sweeping around the dump, is large enough to hold loads as large as most customers bring in, saves the operator's time, and allows the customer to move on with a minimum of delay.

7. A large dump and a high hoist eliminated the truck clean-out operation.

8. A cob disposal system which stores ground cobs in a location readily available to customers minimizes the amount burned. With this easy access set-up most of the cob removal is done by the customer without any assistance from the operators. A charge is made for ground cobs but no charge is made for those not ground. With the former unhandy cob disposal set-up the operator spent much time in hauling cobs to an out-of-town dump.

9. A bin unloading arrangement using a belt instead of an augur conveyor speeds up movement of grain from storage bins to feed mixing area or to the load-out scales, virtually eliminating clean-out problems.

10. A changer for the hammer mill screens, located on the same floor as the other equipment controls, cuts screen changing time to one-eighth the time required with the former arrangement when the operator had to take a ladder to the basement and change the screens manually.

11. A spouting system leads to bins in which bulk feed ingredients are stored and also where finished bulk feed is stored to the extent that ingredients and feed can be handled in bulk, and manual handling in this operation virtually eliminated.

12. A movable dial scale aids in assembling feed ingredients from bulk storage. Adding bulk supplement to the mixer is done twice as fast as with the old spouting arrangement and ten times faster than using sacked ingredients.

13. A convenient semi-automatic bulk load-out system permits handling the average load in 3.15 minutes. To bag the same amount of feed and transport it to the customer's vehicle required 12.96 minutes. This saving is important in cutting labor costs in processing feed and in promoting good customer relations.

The above combination of improvements applied in this feed mill cut labor costs by $9,000 to $10,000 (crew was reduced by 2 men), and permitted a 50 percent increase in volume. The manager believes that volume can be doubled without any additional labor.

Three other examples we have used in business management with grain and feed marketing firms.

1. Seminars.—We held a 2-day seminar in long-range planning with managers in which we tried: (1) To get an understanding of the principles and tools used in planning, and (2) to gain some degree of competence in using the recommended tools and procedures as guides to improved decision making. Our approach was to explain the principles and procedures and then have case problems for the group to work on to illustrate the application of the principles. We are planning another seminar for the near future for another group of about 30 managers.

2. Management Audit.—We used the outline in the North Carolina publication as a guide in making a management audit for a county co-op organization. About 2 days were spent in talking to the manager, department heads, board of directors, and several individual employees. After this we made our evaluation and then discussed each point (with reasons) at a board meeting.

3. Case Problem Discussions in District Manager Meetings.—We meet each month with a group of co-op managers (12) for one district in the State to discuss a management problem decided on by the group. Between meetings the specialist and host manager get together and prepare the problem in a manageable form for presentation at the next meeting. At the meeting, the problem situation is given, and the group develops a practical statement of the real problem. Then alternative solutions are developed by the group, and the consequences of each feasible alternative are analyzed. If possible, a concluding recommendation is made before the meeting is over.

RECENT DEVELOPMENTS IN CONDITIONING, STORING, AND HANDLING GRAIN TO MAINTAIN QUALITY

Leo E. Holman and Lloyd L. Smith
Agricultural Marketing Service
U.S. Department of Agriculture

The grain industry is always faced with problems of preserving grain quality as it moves through marketing channels. New and improved methods and equipment are needed to help solve these problems.

Advanced technology for the production and harvesting of grain has increased the moisture levels at which grain is received at commercial storages. Thus improved drying equipment and procedures are needed to provide desirable drying conditions for various commercial and industrial processes.

Nearly all samples of dried shelled corn from drying tests done in Indiana had kernels having "stress cracks." The formation of stress cracks or fissures in the corn endosperm is related to the drying treatment, according to observations made in both the 1959 and 1960 tests. There were fewer stress cracks in the corn dried from an initial moisture level of 20 percent than in that dried from a high of 25 or 30 percent. There was no consistent relationship between the number of stress cracks and the drying temperature used. When the dried samples were subjected to a laboratory breakage test, the samples with the highest number of stress cracks also had the highest percent breakage.

The phenomenon of "stress crack" development observed in artificially dried grain was explored in more detail under laboratory conditions. The amount and rate of moisture removal as well as the drying temperature were found to affect the number of stress cracks. Under certain conditions, the number increased during the cooling of the corn or during storage immediately after drying. Drying by stages reduced slightly the number of stress cracks but not enough to be considered a practical solution to the problem. Most of the stress cracks formed during or immediately after drying through the moisture range of from 17 to 14 percent.

There were fewer stress cracks in corn dried on the ear at 160° F. drying air temperature than in shelled corn dried at 80° F. This difference is apparently associated with the speed of drying since shelled corn dried much faster than ear corn when exposed to the same drying conditions.

Limited tests in commercial storages have indicated that static pressure losses in aeration ducts were being grossly underestimated. This was particularly evident in the longer ducts used in large flat storages. Nonuniformity in air distribution and in cooling rates indicated the need for more precise engineering data for aeration system design. Under a research contract a series of tests is being conducted to determine pressure losses in 10 different types of ducts. Some of the results of these tests are: (1) Pressure losses in perforated ducts are approximately 25 percent greater than losses in nonperforated ducts; (2) pressure losses in corrugated ducts are approximately 4-1/2 to 6 times greater than those in noncorrugated ducts of the same size; (3) losses in half-round ducts are approximately 25 percent greater than the losses in round ducts of the same cross section; and (4) neither steel-troweled or broom-finished concrete beneath half-round ducts cause any greater pressure loss than steel bottoms.

Laboratory tests on static pressure losses around aeration ducts showed a high loss occurring in the first 2-1/2 feet of the grain surrounding the duct.

The use of fans for reducing the temperature of the headspace (space above the grain) air and at the grain surface during the hot summer months was studied in large flat storages in the Southwest. Air temperatures as high as 140° F. were observed in the headspace of a storage with no mechanical ventilation; headspace temperatures were 20 degrees lower in an adjacent storage with ventilating fans providing an air change every 2 to 3 minutes. A gradual increase in grain temperature (to a depth of 36 inches below the grain surface) occurred at a faster rate in the storage with no headspace ventilation.

Tests were conducted in an upright storage bin to determine the relationship of grain depth and length of storage period to the increase in the packing of the stored grain. A slight decrease in airflow was observed during a 6-month storage period which was attributed to greater packing of the grain.

Both summer and winter aeration gave satisfactory results in the Southeast. Wheat having an initial average temperature of 90° F. was stored during July. At the end of the summer aeration test period in September there was no reduction in quality although wheat temperatures had been reduced only about 5 degrees. Corn with a moisture content of 14 percent and an initial average temperature of 85° F. was aerated with airflow rates of 1/9 to 1/17 cfm per bushel. With 1/9 cfm per bushel the lowest average corn temperature, 40° F., was reached after 379 hours of fan operation. With the lower airflow rate of 1/17 cfm per bushel the lowest average corn temperature, 45° F., was reached after 475 hours of fan operation, an additional 96 hours.

In Kansas, aerated wheat was warmed in order to establish more favorable grain temperatures for fumigation. This wheat had been in aerated storage over two years without turning or treating but a grain temperature increase at one thermocouple indicated a possible insect infestation. The grain was warmed from an average temperature of 63° F. to 73° F. by operating the fan when the outside air was below 73° F. and less than 90 percent relative humidity. After fumigation the grain was again cooled by aeration and remained in storage for the third year.

A good layout of equipment and coordinated methods at the truck scale are important to rapid and efficient weighing of farm trucks during harvest. Using the methods observed at country elevators in Kansas, a 3-man crew at the drive pit unloaded trucks at a rate of 5,850 bushels per hour with a direct labor and equipment cost of 18.6 cents per truck. An improved method using a 3-man crew increased the receiving rate to 7,400 bushels per hour while reducing the direct labor and equipment cost to 16.1 cents per truck.

In the Hard Red Winter Wheat Area of the Central Great Plains, the currect construction cost of modern upright concrete elevators in the sizes studied (200,000 to 500,000 bushels) averaged about $0.70 per bushel. These elevators receive annually a volume of grain equal to 1.1 times their storage capacity. The capacities of receiving equipment ranged from 5,000 to 8,000 bushels per hour per elevator. The power requirements for the handling equipment in each elevator averaged about 75 horsepower. In comparison, the current construction cost for the modern flat storage, common in the grain sorghum producing areas of Texas, averaged about $0.31 per bushel. However, these storages could only receive about 2,500 bushels per hour per storage, and the volume of grain received annually averaged 0.7 times the storage capacity. The total power requirements for the handling equipment averaged 60 horsepower, and aeration equipment required another 45 horsepower, a total of 105 horsepower per storage. The modern elevators surveyed in the Corn Belt were similar in type to those found in the Hard Red Winter Wheat Area except that they received annually approximately four times their storage capacity.

QUALITY DETERMINATION TESTS FOR GRAIN

Morris H. Neustadt
Agricultural Marketing Service
U.S. Department of Agriculture

Grain quality has many different meanings dependent upon the type of grain and the use to which it will be applied. Generally it refers to the quantitative differences in the attributes, properties, or characteristics of a particular lot of grain. Differences in quality may have reference to inherent agronomic characteristics, external environmental effects during growth, or acquired characteristics after harvest. Quality is of importance to the grower, grain merchant, processor, and consumer.

The purpose of the U.S. Grain Standards is to provide a yardstick by which the different qualities and conditions of grain may be measured so as to facilitate the merchandising of grain as it passes through the various channels of commerce from the producer to the processor.

When the grain standards were promulgated in 1916 there was an attempt to apply certain quality factors to distinguish one numerical grade from another or one class from another. These factors were based on physical observations and tests. For certain purposes these quality tests are adequate and quite useful, but in other respects they fall short of meeting the requirements of certain segments of the grain trade. In some instances more precise physical and chemical tests are necessary to evaluate quality. Furthermore, these tests must be practicable in the sense that they must be simple and rapid enough to be applied by licensed inspectors who have to perform large numbers of inspections in a single day. That is not a simple task, but research has led to development of a number of practical tests which will be discussed.

Moisture Content

Moisture content is an important factor in all grain. For each type of grain there is a critical moisture level above which grain is likely to spoil. This value is usually the moisture content which is in equilibrium with a relative humidity of 75 percent. Generally above 14-percent moisture, under normal storage conditions, grain is likely to deteriorate rapidly. Whereas, if the grain is about 1 percent lower in moisture content, it will usually remain sound in storage over a considerable period. It is then quite apparent that moisture must be accurately measured.

The basic official method of determining moisture content is the oven method wherein a sample of grain is heated under prescribed conditions and the loss in weight is determined. The method is time consuming and involves the use of an analytical balance. For practical purposes, electric moisture meters which measure some electrical property of grain related to moisture content are used instead. These meters have to be calibrated against the basic oven method. There are many devices available commercially that are intended for rapid moisture measurement in grain.

Fat Acidity

Under normal growing conditions grain at time of harvest is in sound condition. After harvest, dependent on conditions of storage, chemical changes commence which may lead to deterioration. The changes may be evident in the development of mold, mustiness, or sourness; but it is desirable to detect these changes before they have gone so far as to be evident to the eye or nose. Besides, the changes do not occur simultaneously in all kernels or there may be an artificial mixture of sound and deteriorated grain that have been mixed in order to dispose piecemeal of a lot of spoiled grain. Studies of the chemical changes occurring in deteriorating grain have revealed that the development of free fatty acids in grain is proportional to the extent of deterioration. With this as a basis, the fat acidity test was developed.

The test is quite simple and rapid. A grain sample is placed in a Stein Mill which grinds and extracts simultaneously with benzene the fat and fatty acids. The extract is filtered, an aliquot of the filtrate is mixed with alcohol, and the mixture is titrated with a standardized solution of potassium hydroxide. The time required for a test is about 15 minutes and less if tests are run serially.

Wheat Quality Tests

Wheat quality refers generally to the quality of wheat for milling into flour for breadmaking. Thus milling and breadmaking are both included in the term "quality" and both are interrelated. Aside from that, millers are often interested as well in the percentage yield of flour from a given wheat. Although tests have been developed along the lines of yield, none are practical enough for use in inspection.

The breadmaking quality of flour is thought of in terms of "strength," that is, the ability to produce a large loaf of good texture. Sometimes strength is defined as the ability of a flour to improve the baking quality of a weaker flour when it is blended with it in the baking process. Strength depends on the protein content as well as the protein quality of the wheat. Ideally, a test for strength would be an actual baking test under standardized conditions. This, however, is not practical from the viewpoint of time and equipment involved; therefore, cereal chemists have sought other tests for wheat as measures of breadmaking quality. Some of these are:

> Kernel Hardness. It is well known that in general, dark, hard and vitreous kernels yield flour of good baking strength. The Strong-Scott Barley Pearler is used to determine objectively the hardness of wheat. Twenty grams of wheat is pearled for 60 seconds, and the quantity removed in pearling is determined. The harder the wheat the smaller the amount removed — about 30 percent for hard wheat and 60 percent for soft, while mixtures and semi-hard wheats show values between these ranges.
>
> Protein Content. For wheats having good gluten quality there is a correlation between protein content and baking strength (as measured by loaf volume). The basic method of protein determination is the Kjeldahl method. Organic nitrogen is determined by digesting the sample of ground wheat with sulfuric acid and a catalyst and then by distillation and titration the quantity of ammonia produced is measured. The nitrogen value is converted to protein content by multiplying by a factor of 5.7. A single determination requires about 1 hour and involves the use of expensive equipment and skillful manipulation. As a result many simpler methods of protein determination have been developed.

Recently the Department of Agriculture instituted an inspection and certification service for sedimentation value of wheat under the Agricultural Marketing Act of 1946. The sedimentation test is designed to furnish a combined measure of the protein content and the quality of that protein in wheat. The test procedure is quite simple. About 200 grams of wheat is ground through a pair of rolls and the flour is sifted through a U.S. No. 100 sieve. 3.2 grams of the flour is placed in a graduated cylinder, 50 ml. of water containing a dye added, and the contents are shaken in a cylinder shaker for exactly 5 minutes. Then 25 ml. of a lactic acid - isopropyl alcohol solution is added, again shaken for 5 minutes, and the cylinder allowed to stand for 5 minutes. The volume of sediment in the cylinder is read and the value is the sedimentation value.

The sedimentation test is capable of classifying wheat according to strength. Strong wheats are those that yield flours capable of producing bread of large loaf volume and superior internal characteristics. Weak wheats yield flours that will produce bread of small loaf volume and poor internal characteristics. Weak wheats, however, are preferred to strong wheats for the production of flour for cakes, pastry, cookies, and crackers. If a wheat is very strong, it can be blended with weaker wheats to upgrade the mix for the production of flour of intermediate strength.

Thousands of comparisons have been made between sedimentation values and bread-baking tests over a period of years and good correlations have nearly always been found when straight-dough bread-baking tests were used. Although the sedimentation test cannot be considered to be a wholly accurate test for wheat strength, all evidence available indicates that it usually provides a better measure of the overall bread-baking strength of wheat than any other known test except an actual bread-baking test.

Corn Breakage Test

In shipments of corn, especially by ocean vessels, the percentage of cracked corn and foreign material at destination often greatly exceeds the amount determined at the time of loading. The increase is always due to breakage of the corn and is believed to be caused by the method of conveying the corn to the vessel. Breakage does not occur equally in all lots of corn, but is most pronounced in corn that has been improperly kiln dried.

The demand for a measure of potential breakage has been great. The Department has developed a device which agitates a 100-gram sample of corn for 2 minutes and then the percentage of corn which passes through a 12/64" round-hole sieve becomes an index of the corn breakage susceptibility of the lot. In experimental studies values ranging from 2 percent to 45 percent have been obtained. The device has not been put into practical use because work is continuing on the standardization of the unit so that all of the units will yield the same results. It is hoped that this will be accomplished by the time corn is harvested next year.

LIVESTOCK

SELLING LIVESTOCK ON THE BASIS OF CARCASS GRADES

Kenneth Monfort
Monfort Feed Lots

In considering the problems of selling on grade and yield basis it is easy to make the mistake of overcomplicating the problem. Sale on grade and weight basis is not a radical change. In fact, it has been going on for some time. Buyers are already calculating their purchases on this basis although in some instances they may be paying farmers on a live price basis. We will develop better producers by buying livestock on a grade and yield basis and we will be helping those producers who do a good job rather than helping those who do a poor job.

The packing business has changed greatly. Chain store buyers are now buying large quantities and the packer cannot afford to overprice cattle. The packer buyer is often an order taker and frequently knows just exactly what he can pay for cattle. Meat packing is a low-profit business and, therefore, a packer cannot afford to take much of a gamble in his operations. To the extent that the packer can eliminate the gamble in his purchase operations by buying on a grade and weight basis he will thereby be able to give the producer the maximum possible price.

If we are to sell on a grade and weight basis (1) producers need better market information, particularly on carlot dressed beef sales — retail market information is of no value; (2) the price should be agreed on before slaughter takes place; (3) the weight on which the producer is paid should be "cold" weight; (4) when bought on a grade basis the grade should be certified by the Government; (5) the time of payment should be a part of the sale contract; and (6) we need something like dual grading to speed up improvement in livestock.

SELLING LIVESTOCK ON THE BASIS OF CARCASS GRADES

S. Kent Christensen
National Association of Food Chains

A retailer's interest in the grade and yield method of buying livestock is indirect except for an extremely small percentage of the total meat requirements. There are only three retailers who I know to be slaughtering livestock. These three companies slaughter about 2.4 percent of the cattle, a little less than 3 percent of the lambs, and about 1 percent of the hogs. As these companies do a small amount of feeding, the number of livestock which would be eligible for purchase on a slaughter grade and yield basis would be even smaller than the total slaughter by the chains. Livestock fed by chains represent less than 1 percent of the total fed in 1960.

While the chain stores are not directly concerned with this problem they are indirectly very much concerned with the end result. That is, to more nearly compensate producers for the value of their livestock as determined by the graded and dressing percentage, and by so doing encourage the kinds of changes in the breeding and feeding programs which will result in superior livestock.

All retailers, chain and independent, would support this objective. However, until recently the retailer's idea of yield has been considerably different from that of the producer and the packer. These two segments of the industry have been particularly concerned with dressing percentage and grade — the latter being an indicator of eating quality.

The retailer, of course, is very much concerned about eating quality — flavor and tenderness — but also in the yield of retail cuts. While many retailers have long recognized there is a substantial difference in the yield of retail cuts within a grade, I doubt that the industry has really appreciated the economic significance. Recent studies, however, are beginning to awaken retailers as well as packers and producers to the need to develop a grading system which recognizes retail yield along with eating quality.

One of the most revealing and conclusive studies along this line was reported at the Beef Coordinating Improvement Conference at Fort Collins, Colorado, in July 1961. This study was sponsored by the Meat-Type Beef Foundation and involved the participation of about 30 young people in a carcass cut-out test. These young people selected their animals specifically for the contest. The animals were sold through regular marketing channels and purchased at market price. After an aging period, the carcasses were cut into retail cuts by the Safeway Stores Division in Denver. It was interesting to note that only 14 of the 30 carcasses met Safeway's standard of weight and grade.

Of these 14 carcasses, the cut-out percentage varied from 64 to 77 percent. The retail value of the top yielding animal was $54.37 per hundredweight of original carcass, while the comparable yield of the lowest yielding animal was $43.24. This is a difference of $11.13 per hundredweight, or about $66 total value. This is a phenomenal difference when you remember that each of the carcasses in the contest fell in the choice grade and the 550-650 weight range.

Many of you have no doubt read of the recent contest at the Grand National Livestock Exposition in San Francisco. This contest involved a comparison of the live, carcass, and retail yield "placings" of 10 top animals. The results were as follows:

Retail Value	Carcass Placings	Live Placings
$61.42	3	6
60.94	6	9
60.87	2	10
60.09	8	7
59.33	1	4
58.24	4	5
56.93	5	3
54.19	7	2
53.97	9	8
51.62	10	1

Two points stand out: (1) The lack of any correlation between live placings and retail value, and (2) the difference of nearly $10 per hundredweight in the retail value of the high and low animals.

The correlation between carcass placing and retail value improved but here again the difference was great. This study further suggests the need for a more accurate indicator of value if producers are to be rewarded for producing the desired kinds of livestock. This is one of the most important challenges facing the industry.

The USDA has suggested a dual grading system which would consider retail yield. While the food chains have not taken any official position on this system (and they probably won't) they do strongly support the principle upon which it is based.

Fortunately, several studies indicate that the desirable carcass characteristics are highly heritable and that it is mainly a matter of selecting the sires which will pass on desirable characteristics to their offspring.

In addition to rewarding individual producers for superior livestock, it is highly important that the livestock industry improve the dressing percentage, the grade and retail cut-out yield of their products in light of the competition from poultry and certain other foods as well as nonfoods. Broilers and turkeys already have made important inroads on the red meat industry. For example, one of the largest chain store organizations in the Nation recently told us that their poultry tonnage had increased from less than 1 percent of total meat department tonnage in 1940, to over 20 percent in a normal week in 1960, and close to 28 percent on weeks containing a holiday.

One of the problems faced by retailers is that the retail yield on red meats has continued to decline over the years. Prior to World War II it was not uncommon to get retail yields of 77 to 80 percent. Members of the National Association of Food Chains tell me they now yield only around 73 to 74 percent. The reduced yield is due in part to an increased amount of de-boning, but to a larger extent to the fact that livestock are carrying more fat which must be trimmed to meet consumer acceptance.

There has been considerable reluctance on the part of many producers and packers to accept dual grading. Let me therefore throw out another idea to you which may lead to the same end result — defatting of livestock at the packinghouse level.

During 1961, the Agricultural Committee of the National Association of Food Chains and the Trade Relations Committee of the American Meat Institute have been exploring the defatting of beef at the packer level. (If possible while the carcass is hot.) It is the general concensus of the committee that it is economic nonsense to spend millions of dollars for transporting unwanted fat to retail stores. Also the fat at the packer level has much greater value than at the retail level where it is sold for nonedible uses.

According to Seth Shaw, formerly with Safeway Stores and a recognized expert in this field:

> "The defatting of beef carcasses would go a long way toward solving the problem that dual grading is proposed to solve. The retailers suggest a defatting standard which would involve: (1) The removal of the kidney knob, leaving no more than one inch of fat; (2) the removal of all pelvic cavity fat; (3) a clean trim of cod bag fat; and (4) the removal of all tail vertebrae and a closer trim of tailhead fat.
>
> "If this standard of trim could be adopted, it would probably result in the removal of about 6 percent of the weight in USDA Choice grade carcasses. This would be an average figure where the range might be from 4

percent to 15 percent. If packers were removing this fat, you can be sure they would discriminate, pricewise, against the wasty cattle. They will be less concerned with high slaughter yield, if the only reason for the high yield is excess fat. Producers, feeders, and packers have been primarily concerned with pounds, but the question now is "pounds of what?"

Mr. Shaw goes on to say that if packers were to do a proper job of defatting, and if they were to reflect the results of the defatting back to producers, they could probably eliminate 60 percent of the difference in value which now exists between retail carcasses in the choice grade. While this would not go all the way, it would tend to head in the right direction.

Let me say again that the chain stores are not directly concerned with the problem of buying on a grade-yield basis but are vitally concerned with the ultimate objective — that of improving the carcass quality, the cutability. We would welcome any logical improvement in the marketing program which would permit this objective to be achieved in the shortest possible period of time.

SELLING LIVESTOCK ON THE BASIS OF CARCASS GRADES

Lee Kolmer
Iowa State University

This question of selling livestock on a carcass basis is a quite controversial area. In my remarks I do not hope to delve very deeply into the pros and cons of the proposition, nor will I come up with a set of recommendations or conclusions. Rather, I would like to look at some of the issues that face producers, processors, retailers, and society and explore with you what a carcass system of selling might mean to each of these particular sectors.

Let us first look at it on the basis of some of the possible advantages and disadvantages that may accrue to the producer if livestock were sold primarily on a carcass basis. If the producer is average or above in terms of efficiency of production and the quality of the finished product coming into the market, there is a distinct possibility that he may gain by having his livestock purchased on a carcass grade basis. This would occur because he would be paid on the basis of the quality delivered to the plant as evaluated carcass by carcass, and he would gain an advantage in that his above average output would be recognized in the market. If the producer is below average, he, in a sense, is at a disadvantage when he is paid for his livestock on the basis of carcass by carcass evaluation of their value. Under these conditions he does not hope to get any advantage from the fact that the average quality purchased in a given market at a given date may be higher than his average quality, and through the system of purchasing on an average lot basis, some of the benefits of this higher average quality rebound to him in the form of a higher average price than he would receive on a carcass evaluation system.

On the other hand, all producers, irrespective of management or quality levels, would suffer some disadvantages in that the price uncertainty facing them would be slightly increased. It would be increased in that the time at which livestock are valued and prices determined would be further away from the farm under a carcass system of selling than under a live animal system of selling. For example, if livestock were shipped last night to a packing plant or terminal and the price is agreed upon this morning, the producer has a period of price uncertainty of less than 24 hours from the time the livestock leaves his farm. If, however, his livestock must be slaughtered, grade determined, value determined, and then payment made, the period of price uncertainty may be extended by an additional 24 hours. While the net effect of this may be a higher rather than a lower price for a given lot of livestock, the price uncertainty assumed by the farmer is greater in this case, and the price uncertainty assumed by the purchaser is less than would be the case. This could be solved by basing the price on the delivery day market rather than on the day the carcasses are graded.

One advantage the processor would gain would be a slight reduction in the price uncertainty facing him at the time he purchases livestock on the live market until the meat products therefrom are sold in the wholesale market. Under a carcass grade system of selling this time would be reduced by the amount of time required to move livestock from the yards through the processing facility and make the meat available for sale. While this would be a slight advantage to processors, and a slight disadvantage to producers, in either event, under today's methods of processing, it would not involve large amounts of time and would not result in greatly increased, for the processor, or greatly decreased, for the producer, price uncertainty.

Other considerations are much more important to the processing sector than is the question of the increase or decrease in price uncertainty. One of these is the cost of such a system and at what point in the total marketing chain these costs will be borne. If such a system were instituted on an industrywide scale, there would be appreciable additions to the total cost of marketing livestock products. And under a carcass grade system of selling, most of these costs, in terms of additional overhead expense, development of systems of identification and payment, additional purchasing personnel, and additional record keeping, would be borne by the processor.

At the present time, other sectors of the industry have attempted to reduce their quality variability and increase uniformity of output going into retail channels by setting up a specification system of buying. The retailers who have done this up to now have borne the costs for initiating and operating such a system. Under a system of carcass grade selling, I think some of the costs, involved in this would be transferred from the retailing sector to the processing-wholesaling sector of the industry.

I think the question that becomes more important than the incidence of cost and level of cost is the question of what may be the result of a carcass grade system of selling in terms of (1) increases in price variability at all levels of the industry, (2) additional constraints placed on the processing and retailing sector, and (3) reduction in the flexibility in market strategies available to processors. Let's look at this question more closely by first making a distinction between the process of grading a product and the process of pricing a product. The grading of product is primarily a technical device for sorting out product and placing it into piles of different qualities. The ability or inability to do this depends upon technical areas of competence rather than the incidence or importance of economic factors impinging on the process. The success of a system of grading depends upon our ability to recognize and measure quality differences in the carcass and translate these into meaningful measurements whereby carcass can be graded quickly and economically.

The pricing function, which is often considered an integral part of the grading operation, is considerably more complex. Not only must the price determiner look at the supply of product available in total, he must also consider the relative supplies of different quality of product available. In addition, he must have information from the demand side concerning the relative value of different qualities in the near future and in the more distant future. This is important in that the trends for different qualities must be recognized if they are to play a role in determining present production decisions which will, to a large degree, determine the nature of the volume and qualities of future output.

While these factors affect the national processor under the present systems of selling, they are not new considerations. However, the carcass grade system of selling would put additional restraints upon the processor. For example, if under the present system of selling the demands for given qualities of product do not coincide with the supplies of each of these qualities available, there is considerable flexibility of moving meat into those markets that will accept a given quality at a price irrespective of the grade designation. This enables the packer to move meat supplies into markets where the top dollar is available. While this leads to some pricing inefficiencies and results in some markets not being completely satisfied with the quality and quantity of different products they receive, it does provide maximum flexibility for moving products from the farm through the processing function into retail markets.

On the other hand, under the system of selling on a carcass grade basis, if the supplies available do not coincide quite closely with the demands for different qualities available, there is not nearly as much opportunity for substitution of qualities and adjustments of price in the given retail markets. One of the reasons for the additional restraints would be that the differentials on the wholesaling end of the processing function would have to be reflected back to the producer as differentials for differed qualities of cattle. It would be very difficult for a given quality in a lower grade to be valued at a higher price or greater value than a quality in a higher grade even though the demands at the retail or wholesaling level would dictate this. Our present system of grading provides some indication of this in the difference in grade differentials existing at one time of the year or at one stage of the livestock cycle as compared with other stages of the livestock cycle. Sometimes Choice and Prime grades of beef are very close together in price, while at other times there is a significant price differential between the two grades.

The carcass grade system may actually provide a market advantage for small processors and slaughterers who do not have a national distribution system. It would provide these small processors with a designation of quality that would permit them to compete on an equal basis with the larger national distributors in the wholesale meat markets of the country. To quite a degree, the present system of grading has given the smaller processors this type of competitive tool. However, carcass grade selling, it seems to me, would enhance this position in that it would permit the smaller processors to be more selective in their buying processes and in effect permit them literally to sort through the supplies of livestock available and purchase those qualities and quantities which permit them to effectively match up the supplies available with the demands facing the firm. This is especially true where given slaughterers dispose of the majority or all of the product in one major market.

With the rapid change occurring in the meat industry it is questionable whether this type of sorting through and matching supplies available with demands facing the firm would be possible for all the smaller firms once the larger processing firms become decentralized and have small, highly capitalized flexible plants in the producing areas. However, while this situation does exist, the smaller processor can exploit his market position, and, in a sense, only purchase and process the cream of the crop. This leaves the remainder of the industry to process and handle the rest of the output which, on the average, is of lower quality and value. The price variations resulting from the inflexibility imposed by the system would be aggravated if the lower grades of output constitute a relatively large portion of the total product handled by any individual firm.

What about the retailer? Up until now retailers do not seem to have taken a very definite stand concerning this issue. Some retailers are very emphatically in favor of such a system of selling, while others seem to be indifferent or actually opposed to it. Retailers, in many instances, have already instituted a similar system of purchasing within their own organizations. They have set up systems whereby meat buyers select the actual carcasses in the packer's coolers in an attempt to more closely tailor the supplies available to the type of demand their particular clientele desires. This is a relatively expensive process of selection and purchasing, and any system whereby the retailing sector would not have to engage in this type of selection and purchasing activity in order to insure itself of the kinds and quantitites of meat it needed in its operation would be desirable from their viewpoint.

What stake does the consumer have in this entire process? As a consumer I would be very interested in the marketing agencies being able to more closely meet my demands for different types and qualities of meats. On the other hand, if in order to do this the price variability facing me is increased or if the average price per unit of meat product is increased, I would have very definitely divided feelings in the matter. My ultimate reaction, as a consumer, will be to a large extent determined by such things as my income position, preference pattern for red meats as compared with other substitutes, and my degree of knowledge concerning the attributes that are associated with meat quality. I do not think that we can predict a "consumer reaction" any more than we have attempted to indicate the position of any individual processor, producer, or retailer in this matter.

I would like to see carcass grade selling continue to be developed on a voluntary basis. Under these conditions it is available for those sectors of the industry who feel it will provide a useable tool for them in their production, processing, and retailing programs. I also feel that very concerted efforts should be made in the areas of demand forecasting and production research so that at some future date we will be in a better position to foresee future demands, and at the same time, make decisions in the breeding, feeding, and production management areas that will enable us to deliver livestock to the processor which will result in meat outputs that more closely coincide with future demands. These conditions, I feel, are necessary if we are to obtain the very real benefits of a carcass grade system of selling sometime in the future. I do not think our state of knowledge at present is good enough for us to achieve the degree of pricing efficiency necessary to gain these benefits at the present time.

IMPROVED GRADES WITH CARCASS CUTABILITY

David M. Pettus
Agricultural Marketing Service
U.S. Department of Agriculture

The success of selling livestock or meat on the basis of carcass grade can very well depend on the adequacy of the grade standards; that is, how well do they accomplish the desired goals. We are constantly striving to improve grade standards to make them more useful to the industry as marketing tools.

A grading system merely provides market identification for a product by dividing it into relatively uniform groups on the basis of characteristics that affect acceptability and, hence, value. In beef there are two primary factors that influence acceptability and value. The first is the quality of the lean, or those characteristics which affect palatability and which are associated with tenderness, juiciness, and flavor. The second factor is "cutability" and refers to the yield of salable meat and the proportion of the high-value preferred cuts from the carcass.

The U. S. Department of Agriculture, as well as many universities, has conducted extensive studies aimed at determining the factors affecting the palatability of beef. This has proven to be a very complex subject. The Department recently published a bulletin summarizing one of the most extensive studies that has been reported on this subject. This study was carried out under contract with the American Meat Institute Foundation. A major conclusion as it relates to this subject of grading can be stated very simply — the present grades do reflect measurable differences in eating quality, but they do not do a perfect job. However, neither this study nor any other research results available to date provide the necessary information for improving the present evaluation of quality in beef. This is important to keep in mind in considering this whole subject of beef grading and how the present standards can be improved.

With respect to the cutability aspect of carcass value, I am sure that many in the industry recognize the considerable range of variation in the yield of trimmed retail cuts from beef carcasses differing considerably in type and fatness. As early as 1953 and 1954, the Department conducted extensive studies involving the measuring, evaluation, and cutting of some 459 beef carcasses representing all grades and varying widely in weight, conformation, and finish. These studies indicated a wide range in yield of trimmed retail cuts among carcasses of the same grade. In conducting these studies we used the combined yield of boneless, closely trimmed retail cuts from the round, loin, rib, and chuck as our measure of cutability of the carcass. These four cuts represent more than 80 percent of the retail value of the carcass.

During the past 2 to 3 years, in cooperation with a number of chain stores and packers, we have collected additional cutting data on several hundred more carcasses. These studies have indicated that "cutability" can be explained primarily by differences in fatness and in muscling. This is not surprising nor does it differ from long-established concepts. However, the effect of variations in cutability within the quality grades is quite significant. For example, in our studies, similar weight Choice grade carcasses ranged in yields of trimmed boneless cuts from the round, loin, rib, and chuck from 55. 0 down to 40. 6 percent of their carcass weight. The significance of these variations is indicated by the fact that, at the present time, each one percent change in cutability is equal to about $1. 25 per hundredweight difference in the value of Choice grade carcasses, or about 75 cents per hundredweight on a liveweight basis. This means that between some thousand-pound Choice cattle we found that a variation in value of more than $25 is not unusual.

Before discussing further the dual grading system, I would like to review briefly our present grading system. When reduced to their simplest form, the present standards provide for a series of grades based on the composite evaluation of variations in two factors — conformation and quality.

In evaluating quality, we consider the marbling, color, texture, and firmness of the meat in relation to the maturity of the animal from which the meat was produced. These are the factors which, through the years, have been generally recognized as the most reliable indicators of quality. These are also used to evaluate quality in the dual grading system.

In evaluating conformation we consider such factors as thickness of muscling, width in relation to length, and the relative development of the more valuable versus the less valuable parts of the carcass.

After a grader has evaluated a carcass for its quality and its conformation, he then combines these evaluations into a single grade — Prime, Choice, Good, Standard, and so on.

While variation in cutability is determined largely by variations in muscling and fatness, our present standards include consideration of only one of these factors — muscling or conformation. The standards do not give any direct consideration to the quantity of external or other fats that are trimmed in making retail cuts.

Superior conformation does not compensate for inferior quality in the same manner as superior quality compensates for inferior conformation. Neither are these types of compensation exactly the same in all grades. It is obvious, of course, that a carcass with Choice conformation and Choice quality would be grade Choice. The standards also specify that a carcass with Good conformation and Prime quality should be graded Choice. In that instance superior quality compensates for inferior conformation on an equal basis. On the other hand, a carcass with Good quality and Prime conformation is graded Good instead of Choice since the standards do not permit superior conformation to compensate for deficient quality in the Prime and Choice grades. Therefore, in these grades more emphasis is on quality.

In the Good and lower grades, the rate and extent of compensation for variations in quality and conformation follow the same pattern as in Prime and Choice, but somewhat more consideration is given to conformation.

Generally, a fairly high proportion of the carcasses in any grade will also have quality equivalent to that grade. However, it is not at all unusual to have some carcasses in the Good and Choice grades with Choice and Prime quality meat respectively because they have an inferior development of conformation. Thus, there frequently is an overlap between grades in the quality of meat — particularly in Choice and Good.

With respect to cutability, the picture is considerably different. Since no consideration at all is given to the quantity of external fat and since conformation is considered primarily only when it is relatively less well developed than the quality, it is obvious that differences in cutability necessarily receive minor consideration. However, even if the present system of grades did include consideration of all the factors affecting cutability, we have not been able to develop any logical basis to give variations in quality and cutability equitable consideration when combined into a single grade as provided by the present standards. Our recent studies and tests have been predicated on a so-called dual grading system — one in which a carcass was given two grade identifications, one for the quality of its meat and another for its cutability. In this study the present grade names — Prime, Choice, Good, and so forth — were used to indicate differences in quality and a series of numbers was used to indicate differences in cutability.

Our studies have indicated that cutability can be estimated with a high degree of accuracy by using only four factors. These are (1) thickness of fat over the rib eye, (2) the size of the rib eye measured in square inches, (3) the quantity of kidney and pelvic fat, and (4) the carcass weight. To give you some indication of the relative importance of these factors, I would like to point out that with other factors remaining constant, only 0.2 inch of additional fat over the rib eye decreases the yield of boneless retail cuts from the round, loin, rib, and chuck slightly more than 1 percent. In other words, it lowers the carcass value by approximately $1.50 per hundredweight. Size of the rib eye, which is an indication of muscling in the carcass, is the second most important factor. When all other factors remain constant, 2 square inches of rib eye change the "cutability" by 1.5 percent or nearly $2 per hundredweight.

The relative effectiveness of these two systems of grading with respect to reflecting differences in quality and "cutability" is rather obvious. With respect to quality, under the dual grading system all meat of the same quality would be in the same grade whereas in the present grading system there is a considerable amount of overlap in quality between grades, particularly in Good and Choice. This would result in some carcasses now graded Good being graded Choice for quality and some now graded Choice being graded Prime for quality.

With respect to "cutability," under the dual grading system each carcass would be given a separate identification for this factor and this would enable the trade to make whatever differences in prices that may be appropriate for variations in this factor.

Each of these grades was set up with a range of 2.3 percent in yield of closely trimmed, boneless cuts from the round, loin, rib, and chuck. At recent prices for Choice grade beef, this range in yield of cuts within each yield grade represents a range in retail sales value of about $3 per hundredweight. Since the yield grade was determined independently of the quality grade, all carcasses of the same yield grade had the same yield of cuts regardless of their quality grade.

Evaluating carcasses for variations in factors used to determine yield grade may sound somewhat complicated. If so, I assure you that this is undoubtedly because it is a new approach to grading. Our experience in testing this procedure has not indicated it to be a difficult one. These tests have indicated that practically no carcasses actually have to be measured to determine their yield grade. On most carcasses graders were able to estimate these factors and combine them into a yield grade with a satisfactory degree of accuracy and speed. However, in case of disagreement these factors can be measured and the yield grade determined very accurately.

Since meat grading is conducted primarily for the benefits that accrue to livestock producers, it is highly important that these same differences in "cutability" of carcasses be readily recognized in live animals. To get some general information on this subject, we have conducted a series of studies which have included nearly 1,000 individual live animals. These studies have indicated that variations in "cutability" can be recognized with a very satisfactory degree of precision. In some of our most recent studies, in about 50 percent of the live animals we have been able to estimate the yield of boneless cuts from the round, loin, rib, and chuck within 1.0 percent of that from evaluating the carcass, and in about 80 percent of the animals we have estimated this within 2.0 percent. This, we think, is very acceptable. From our studies we are satisfied that the same differences in muscling and fatness that are responsible for variations in "cutability" in carcasses can also be recognized in live animals.

It is very true, of course, that most Good grade beef has less external fat than most Prime grade beef but variations are not at all uncommon. The important point is variations in "cutability" within the present grades of beef are a very definite problem and that merely lowering grade lines will do little to decrease these variations within grades.

In view of the fat problem, it would appear that the beef industry needs to find some improved system of grading in order to identify carcasses for differences in "cutability." Lowering of grade lines will do nothing constructive toward reducing the wide variation in fatness among carcasses with the same quality of meat nor would it encourage in any way the production of meat-type cattle. The only sure way to get cattle with high "cutability" produced is for "cutability" to be given proper recognition in trading on carcasses and live animals and thus provide the incentive for these kinds to be produced. A system of dual grading can furnish one means whereby this can be accomplished.

DEMONSTRATIONS AS A METHOD OF INCREASING MEAT CONSUMPTION

Lowell Mohler
Kansas State Board of Agriculture

Lack of consumer information on the identification, selection, and preparation of red meat cuts is very evident among many homemakers in Kansas. Most housewives, especially the younger ones just out of school, know little or nothing about the selection of beef, pork, and lamb cuts at the retail store or wherever they purchase meat. Thus, they do not know how to buy economically, and in most cases they do not know how to prepare the meat cuts properly.

To improve this situation, we have conducted a total of 72 consumer information meat demonstrations stressing the importance of proper selection and the use of economical meat cuts. Thirty-two TV and radio programs were also used to emphasize the importance of meat in the diet and proper preparation.

These demonstrations were conducted by the following groups:

1. High school and college home economics teachers and students
2. County Extension groups (unit training leaders, etc.)
3. Livestock producers and marketing agencies
4. School Lunch and social welfare organizations

5. Public meetings in cooperation with Kansas State University and the Extension Service
6. Civic groups (Rotary Clubs, etc.)

We are convinced that there are two areas where information on selection and preparation is most needed. These are the high school and college home economics students, and the homemakers in the large metropolitan areas who buy only from retail food stores. If the students are adequately trained in the selection and preparation of meat cuts before they leave school, they are able to buy properly and to serve an attractive and flavorful meat dish when they become homemakers.

The people who live in small country towns or farmers and ranchers, do not have to be encouraged to eat beef, pork, and lamb since it is usually produced in quantity by them or is available at the local locker plant or retail store. But people in large cities buy only at the supermarket and are confronted with many food items. In the meat department alone there may be 150 or more items to choose from not counting the fish items and the other substitutes such as the 900-calorie liquid meals. Most of these homemakers know only a few of the retail meat cuts available and how they are to be prepared. Through public demonstrations, we show them many of the meat cuts available, the preparation, and, above all, the importance of meat in the diet.

Visual Aids Used

Following is a list of visual aids used in meat demonstration work:

1. Carcass charts showing wholesale and retail cuts
2. National Livestock and Meat Board promotion posters
3. Slide sets on identification, buying, and marketing of meat and meat products.
4. 16 mm films on outdoor cookery and meat selection.
5. National Livestock and Meat Board and Kansas State Board of Agriculture booklets, pamphlets, and handout sheets.

The above aids are a big help in conducting meat demonstrations of all kinds.

Types of Meat Demonstrations

We conduct several types of meat demonstrations with the most popular being the programs on meat utilization and outdoor cookery. The marketing specialist and home economist work together on the meat utilization program with a typical program conducted as follows:

1. Marketing specialist discusses selection and identification and starts cutting first wholesale or retail meat cuts. (7 meat cuts are usually used in each program.)
2. Home economist then takes each meat cut and discusses preparation and cooking times and temperatures.
3. Finish program with display of cooked and garnished meat cuts and any questions from the audience.

This type of program works especially well for home economics students and for the larger public county meetings.

Another type of demonstration quite popular with both men and women is the program on outdoor cookery. Outdoor cooking has become popular, and is an excellent outlet for red meat. A total of 29 outdoor cooking demonstrations were held the past summer for a variety of groups. These included a discussion on equipment, building a fire, meats that barbecue well, and a display of barbecued meats.

Other types of demonstrations conducted by the Marketing Division include:

1. Nutritional value of meat (Usually given by the home economist)
2. Less tender cuts (marketing specialist and home economist)
3. Meat carving (marketing specialist)
4. Carcass cut-out demonstration. (Marketing specialist and meat supervisor from one of the retail food chains, cut up hind or forequarter of beef, price it, show trimming loss, and the value of the quarter to the retailer.)

All of the above demonstrations are available upon request. The sponsoring organization usually makes all arrangements and pays the cost of the meat used. The TV demonstrations are particularly important to us since we reach so many people through this media of communication.

Value of Meat Demonstrations

From the number of persons in attendance and the response of those attending the demonstrations, this type of program works well and is needed in the State. We have no tool or method of measuring increased meat consumption in the State but we are satisfied that we are helping to keep per capita meat consumption in Kansas well above that of the national average. We do know that most homemakers are interested in getting the most from their food dollar and in preparing food in such a way as to satisfy the entire family. For these reasons, meat demonstrations play an important part in the meat program of the Marketing Division.

TV DEMONSTRATIONS

Robert E. Rust
Iowa State University

In considering the problem of educating consumers about meat, we first attempted to identify the audience. We felt that our primary audience was the adult consumer. The next considerations were where our audience was in terms of educational level. Then, where we wanted to take them, and how we were going to get them there.

To consider the first point, we felt that the consumer's knowledge of meat was a very low level. In this respect I think we must concentrate on the ABC's of meat information rather than the more elaborate refinements. As professional workers I think we are too often prone to assume too high a level of knowledge on the part of our audience. For this reason we have concentrated most of our educational efforts at a relatively elementary level.

We felt that the first step was to build an elementary knowledge of meat selection, storage, handling, and preparation, although we left the latter to the home economists. I believe they have advanced the area of knowledge of preparation beyond that of selection of meat cuts. We feel that a better informed consumer will be better satisfied with the product if she can make more knowledgeable use of it. There exists, too, the possibility that we can alter the consumer's demand to suit the product we can best produce — to some extent at least.

Now, the problem becomes one of how to get them there. Direct demonstrations are a possibility. They are, however, costly in terms of product, time, and personnel when you consider the limited number of people you may reach. There is further the problem of getting the desired audience out to the meeting and then if the audience is large, of showing relatively small items which may not be clearly visible from distances beyond 20-30 feet.

Mass media then suggests themselves as possibilities. Newspapers and bulletins offer the opportunity to show meat through pictures but they need to be read to be effective. Even if they are read, the spoken word is more effective than the printed one. Radio is a good possibility but it is better to show something rather than talk about it. Bulletins offer excellent possibilities for followup material. Films and slide sets are excellent but are costly to produce and still depend on getting people to a meeting place where they may be shown.

We felt that TV was our answer. It offers the chance to show the product in a dramatic way. We can reach large audiences particularly if tapes or kinescopes are used. Meat is dramatic enough to hold the viewer's interest once she has had a glimpse of the program.

TV has proven itself economical to use. In a few hours time we can cut tapes at the campus studios and make these available throughout the State. If kinescopes are needed for stations without tape equipment, they can be cheaply made from the tapes. These kinescopes can also be used for mass meetings.

We began the series approach quite by accident when a station requested a series of 15-minute spots on meat as part of an hour-long variety show. This series was expanded to about 24 programs. In effect we gave the viewers a semester basic course in meat. On this basis we have developed a series of eight 15-minute tapes to be used on Iowa stations. These tapes will be made available to a station and viewing will be promoted by the extension office in the viewing area. Followup material on a commodity basis is now being prepared to use with this tape series. If the viewers have a reference they can turn to, we feel that our educational efforts will be much more productive. We feel, too, that the series approach is most effective since it allows us to build on previous information as we go along.

We have also used closed circuit TV most effectively with large audiences on the campus. This was particularly effective at a recent grading program in which the USDA personnel participated. We were able to show each viewer in a rather large audience the exact small portion of the carcass we wanted him to see at any given time. We used movies of the live animals together with the TV picture of the carcasses to explain the dual grading concept, and we felt it was well worth the effort. We could easily hold the audience's attention on one segment at one time without distractions.

directed at the development of improved livestock estimates. This is being done through expanding the reports and improving the accuracy and usefulness of reports. Services in the field of agricultural facts include a tremendous amount of data and other information by counties and geographic areas, or production areas, within States that would not be possible except through the cooperation with the State departments of agriculture, universities and colleges, and other State agencies. It goes almost without saying that this is also true of trade and industry members and associations.

Some highlights in the development of "Facts for Decision" in the livestock industry are particularly worth reiterating and are pertinent at this time:

The quarterly cattle on feed reports were started in three States, using Agricultural Marketing Act funds. These reports have been taken over entirely under the regular operating funds of the Statistical Reporting Service. They have been expanded to cover 26 States, and two more southern States will soon be added. Monthly reports are being issued in California, Arizona, and Colorado.

The quarterly cattle on feed report for each State shows: The number on feed at the first of the quarter by weight, sex, and length of time on feed. It gives the number placed on feed, the number marketed from feed lots during the quarter just ended, and marketing intentions for the following quarter.

Quarterly cattle on feed reports have been a "must" to trace the great changes taking place in beef production. As the feeding season shortens, consumer demand changes, and feeding practices improve, the reports on cattle feeding require refurbishing. There are many feeders in the western and plains States now wanting a monthly reporting service for cattle feeding, feeling that a three-month gap in reporting is too much when the length of time on feed has been shortened.

"Facts for Decision" now include the expanded reporting program for sheep on feed. These reports are issued for November 1, January 1, and March 1. They include for 7 leading States the estimates for sheep and lambs on feed by weight groups, data on marketing, and numbers placed on feed.

Another special fact reporting area has been developed in recent years through use of Agricultural Marketing Act funds as State projects in the quarterly sow farrowing or pig crop reports which are now issued in 10 leading hog producing States. These quarterly reports prepared in 10 States show, by States, the number of hogs on farms by age groups as of the first of the quarter, the number of sows farrowing during the preceding quarter, and intentions for farrowing in the two subsequent quarters. Flattening out the farrowing seasons has changed the marketing pattern for hogs. We have now reached a point where all States should be reported quarterly. Also the type of statistics released needs reexamination, especially for the inventory estimates.

In further developing the information on inventory numbers of hogs, the Iowa Cooperative Federal-State Crop and Livestock Reporting Service and our Livestock Branch of the Statistical Reporting Service are developing some special background material on separation of inventory numbers of hogs in groups based on weight of the hogs as compared with age as the basis for separation. Further work is being done on this subject and it seems to hold promise both as to improvement in the information obtained from producers and in the significance of the numbers by weight groups as compared with age groups.

As TV education in our schools expands I think we have a wonderful opportunity to reach a new audience with meat information. I personally view this area as a very fertile field since we would be reaching our future homemakers at a very impressionable age.

FACTS FOR DECISION — SITUATION ON LIVESTOCK

Samuel J. Gilbert
Iowa Department of Agriculture

"Facts for Decision" — how do we stand on livestock? Some of us feel that we are not standing — we are running, running hard trying to keep up with the changes taking place and to revise the reporting program to provide the best possible facts on what is happening and on what is likely to happen.

Facts are needed by so many different users for such a multiplicity of purposes that it is not easy to find the kind of service which will do the most good with the resources that are available. Producers of livestock include many kinds of operators — the purebred breeder, the experimenter in selectivity for different characteristics, and the developer of new breed crosses. Included also are producers of feeder cattle and calves, pigs, and lambs, and the feeders who finish the animals for market. Requirements for "Facts for Decision" vary from one group to another among producers. A similar situation prevails for processors, wholesalers, retailers, consumers — all of whom are to be found in the marketplace.

What facts do we need? Basically, facts on numbers of animals may be used as a starting point. From this starting point we now have by States, facts on births, inshipments, marketings, prices, income to producers, commercial and farm slaughter, cattle and sheep on feed, and numerous related series. Some of these facts are prepared monthly, others annually. The list is long but more things are needed. Demands are increasing every day for more detailed, more comprehensive facts, and at the same time for more precision. Facts are also needed through the whole gamut of the marketing system, from prospective supplies through actual marketings and on to consumer preferences. Many of these facts may not be of direct help to the individual farmer, but there is someone in the marketplace who needs the facts, and his reaction will have a bearing on the producer.

Needs for facts and demands for statistical services are not static. Changing, shifting patterns in the livestock industry generally add to the amount of information desired and to the quality or degree of accuracy needed.

During recent years, there is a strong move toward increasing and improving "Facts for Decision." The work of the Statistical Reporting Service of the U. S. Department of Agriculture is being supported by the increasing program in objective sampling with many studies and tests already made and new ones developing. These include not only sampling techniques, but such things as rapid transmittal and communication and the use of automatic data processing. An operating program using probability sampling and other modifying techniques is now well underway.

Use of the fact finding and servicing machinery of the State agencies in cooperation with the Federal Government continues to play an important role in the total effort

In another look at "Facts for Decision" as presented in the quarterly reports of Cattle on Feed and on Sow Farrowings, A. V. Nordquist, formerly chief of the Livestock Branch and now Statistician for Nebraska, recently pointed out, ". . . . It should be emphasized that these are not necessarily government reports. They have been undertaken at the request of the livestock industry and they have been expanded as the industry requested expansion and changes. . . . The livestock industry wants to face the facts. Sometimes these facts are discouraging and sometimes they are encouraging. Regardless of this, the Department reports and estimates should be studied with care and with knowledge that the facts they report do not reflect all of the forces that have a bearing on future trends in livestock or livestock production. They need to be considered along with other factors that have an impact on trends, taking into account an individual's own situation."

Following is another quote from Nordquist relating to the meaning and use of facts for livestock decisions from the Quarterly Sow Farrowing and Pig Crop reports: "The first tip-off that hog production was turning downward came in the September 1959 quarterly report. . . . In June 1959, hog producers planned an 8 percent increase in 1959 fall litters. By September they lowered their sights to a 5 percent gain for the fall and indicated a reduction of 4 percent for the winter litters. The December 1959 pig crop report confirmed the cut-back to a 5 percent increase for the fall litters. It also reported a decrease in litter size so that the fall crop was up only 2 percent from the previous year. . . . The December report contained a bigger surprise. It showed an intended reduction of 15 percent from a year earlier in the December-February litters for the 10 States making quarterly surveys. Intentions for the main spring months (March-May) indicated a decrease of 11 percent for these States."

Needless to say some alarm occurred over these reports for fear that they extended an invitation for everybody to get back into the hog business. There was, however, no marked reversal in these plans in the March 1, 1960 report for the 10 States.

This discussion with respect to the Cattle on Feed, Sheep on Feed and with the special emphasis given to the Quarterly Sow Farrowing and Pig Crop Reports is intended to illustrate in some small part where we stand when it comes to basic "Facts for Decision" in the livestock business.

Basic data as such frequently require analysis and interpretation before the individual, person or firm can make full use of the information. To these facts are added other facts by economic analysts and forecasters, private and public. There is recurrent need for reorientation of the livestock business through more facts on marketing methods and other subjects, through greater frequency in the reporting, through better timing, and through improved "Facts for Decision."

NEW FRONTIERS IN DATA COLLECTION AND DISSEMINATION

J. C. Purcell
Georgia Agricultural Experiment Station

Available data pertaining to livestock and meats in the United States leave much to be desired from the point of view of usefulness to the livestock and meat industry, extension or educational program, and research programs. This is particularly true with respect to the needs of research personnel in the State Experiment Stations and the U. S. Department of Agriculture.

Research personnel are not primarily in the business of data collection. However, much of the data needed in research are not available from other sources. Also, the dynamic or changing nature of our economy and its problems require continual data and analyses for solution of the problems. Decision makers in the industry and educational people need a continual flow of data relevant to the livestock and meat industry.

The four Regional Livestock Marketing Research Committees in the United States have recently joined forces in a cooperative interregional effort to assemble data necessary for research in the general problem area of livestock and meat movements. Data on livestock and meat movements are not currently available from data collection agencies, but research personnel interested in livestock marketing throughout the United States almost simultaneously recognized the need for such data.

Following are some of the objectives of a research program which require data on livestock and meat movements:

1. To measure the impact of shifting geographical location of the population on the demand for the various classes of meat.
2. To develop improved State by State estimates of total and per capita consumption of the various kinds of meats.
3. To evaluate and interpret the shifting geographical pattern of production of the various species and classes of livestock.
4. To delineate the direction and volume of movement of livestock and meat from the areas of production to areas of consumption.
5. To study the effect of transportation rates and costs on the direction and flow of livestock and meats.
6. To draw implications with respect to location of marketing, slaughtering, and processing facilities.
7. To project patterns of production, consumption slaughtering, and direction and flow of livestock and meat into the future.

Specific needs for data necessary for research in livestock and meat marketing as currently conceived by research personnel include:

1. Marketings of livestock by production areas including a breakdown of (1) fed steers and heifers (good grade or better), (2) other steers and heifers, (3) cows suitable for block beef, (4) boning cows, bulls, and stags, (5) heavy calves of good grade or better, (6) other heavy calves, (7) veal calves of good grade or better, (8) boning calves, (9) smooth barrows and gilts, (10) other barrows and gilts, (11) sows, boars, and stags, (12) good or better lambs, (13) other lambs, (14) sheep.
2. Slaughter of livestock by areas including a classification similar to marketings. Also source of animals by species and class and destination of meats by the same classification to consuming areas.
3. Specific price data are needed at all levels of the marketing system by species, grade, and class of both livestock and carcasses by designated geographic areas.

Reasonably adequate data are currently available on livestock inventories and livestock production by States through the Agricultural Estimates Division of the U. S.

Department of Agriculture. Some improvement could be made, however, in improving the accuracy of such data and additional geographic breakdown (sub-state areas).

Considerable data are collected and disseminated currently on prices of livestock through the Federal-State Market News Service. Although the data are rather widely collected and disseminated, in most cases the grade, class, and price range are rather vague.

Geographic coverage of data on prices of carcasses and cuts of meat by class and grade are rather limited. At the present time data on prices of carcasses and cuts are nonexistent in the Southeast.

State departments of agriculture could add considerably to the data available on livestock and meats in conjunction with the regulatory programs. A good example is the data available on Federally inspected slaughter compiled by the Federal Meat Inspection Service of the U. S. Department of Agriculture. Volume data alone on marketing and processing agencies would be of considerable value to research personnel. The cost of collecting data could be reduced by cooperation between Agriculture Estimates and regulatory agencies at the State level.

CHANGING MARKET STRUCTURE MEANS CHANGING MARKET NEWS

Walter J. Wills
Southern Illinois University

In marketing there are essentially three areas of appraisal: Market efficiency, market development, and market competition.

Market efficiency is used to indicate those aspects of marketing affecting the efficiency with which physical movement of the product or pricing is accomplished. Market development is used to indicate those aspects of marketing related to developing new products, new uses, new markets, promotion, advertising and other items of this nature. Under market competition are the regulations that affect terms of trade, or the development of the rules of the game so that all firms are competing on the same terms. Still another area that affects competition is market information. One of the basic tenets of a competitive economy is that both buyers and sellers are informed. It is this phase of marketing that I want you to consider, the problems of keeping a market news system adapted to a changing market structure.

In the earlier stages of the development of the market structure in the United States product movement and price determination occurred practically simultaneously. That is, at each stage in the marketing process there was a movement of product, the product changed ownership, and the pricing function was performed. Incidentally, at that stage in market development a relatively large portion of production for sale moved through terminal markets. Under such conditions country market prices tended to bear a relatively fixed relationship to terminal market prices. A large portion of the marketing was done by inspection rather than by description.

In the modern marketing economy much product is purchased by description on a specification basis. In addition, the product may flow physically through one pattern while the pricing function is performed through another pattern of facilities and people. For example, hogs may move physically from a buying station at Effingham, Ill., to a packing plant at Oklahoma City, Okla. or Memphis, Tenn., while price negotiations are between an office in Bloomington, Ill., and an office in Chicago. Or grain may physically move from Gorham, Ill., to New Orleans, La., while price negotiations are between offices in Carbondale, Ill., and Chicago. The divorce of product movement and price complicates the market intelligence picture and necessitates refinements that often are overlooked.

There may be some reason to feel the present stage of development is transitional from a terminal market structure to a coordination of production and marketing situation. If this is a transition period then any market news adjustments made to meet current needs must be kept sufficiently flexible so that as new developments occur they can be worked into the system. Briefly we should look at the two alternatives suggested. It has been demonstrated that since terminal market receipts represent relatively smaller portions of the total crop than formerly, an adequate market news picture must reveal information concerning markets other than terminal markets. If dispersed marketing through local markets is the way marketing goes then the need for a market news system that will reflect prices, volume, and so forth at both terminal and nonterminal markets is of primary concern.

But if dispersed marketing is only a transitional step in market development still further adjustments in market news must be considered. Coordinated production and marketing programs have already developed with many commodities in various areas throughout the United States. These arrangements have taken a multitude of forms, differing between commodities, areas, uses of products and other factors. These arrangements are often referred to as vertical integration.

Many reasons are frequently advanced for vertical integration and other contractual arrangements. These may be: (1) To be assured of volume or quality; (2) to reduce risk of price change; (3) to improve efficiency in use of resources; (4) to strengthen capital resources available; and (5) to improve management.

The components of "price" further complicate assemblage of market information. Price includes payment for a product plus payment for a bundle of services. This bundle of services is an integral component of the price quoted and varies from commodity to commodity and often among farmers with the same commodity in the same market area. Still price is a major factor in selecting a market from among various alternatives.

The need for information on volume, prices, terms of trade, and other factors that help in selecting the market that will permit maximizing income becomes increasingly important. The availability of this information from only one market does not permit the buyer or seller to make a selection of alternative markets on a sound economic basis. No longer does the terminal market report suffice as a sole source of market information.

These changes in the marketing structure were recognized when plans were made to institute an interior livestock market reporting system in Illinois. Illinois farmers market large numbers of livestock through nonterminal market sources. Various studies in Illinois and in other States indicate that although prices at the various markets tend on the average to move together, day-to-day variations between markets are evident. Therefore, since farmers market on a specific day rather than "on the average" they need information on specific markets.

Briefly the "market information" or "reporting" system works in this fashion: Various large buyers report prices paid for hogs at their buying stations. Volume data are also supplied. These individual reports are tabulated, summarized and the completed report disseminated to wire, newspaper, and radio stations. Some of these radio stations reach over 50 percent of the livestock farmers in their particular areas. Reporters also obtain information from selected auctions in the State. Generally, acceptance of this report by farmers in the State and by the trade has been most gratifying. This is a joint State-Federal project with the coordinator being a Federal employee. For further information on this Illinois program see AMS 440 "Reporting Livestock Market News in Illinois."

In recent weeks this report covered over 100,000 hogs; in the same period receipts at large terminal markets such as National Stockyards were about half that volume.

In January of 1961, information concerning livestock marketing was obtained from over 2,200 Illinois livestock farmers. About two-fifths of the hogs and two-thirds of the cattle were sold through terminal markets. Nearly 75 percent of the farmers selling cattle and about 70 percent of the farmers selling hogs checked prices from more than one market before selling. Nearly two-thirds of the farmers checked market news regularly rather than only when ready to sell. Less than half believed that a given market consistently paid a price higher than any other market. Copies of this study are available free on request by writing to Agricultural Industries Dept., School of Agriculture, Southern Illinois University and asking for Publication No. 7, "Improving Illinois Livestock Market News".

Information for this study was obtained only from livestock producers. There are always limitations as to the amount and type of information that can be developed. The farmer is one of the major users of market news. His desire for such information must be carefully weighed by the market news agencies so that their reporting decisions are consistent with cost, available funds, cooperation with and by the market agencies, and other items of this nature.

On the basis of information from this study, a number of ways to improve market news are suggested. Radio and other media should:

1. Report information from more than one market
2. Report on prices for other than the top
3. Include volume; and other pertinent pricing information
4. Give early first reports on radio on trading activity (by 9 a.m. or shortly thereafter)
5. Give regular hourly brief summary until noon, a rather complete rundown of market news at noon and again in the early evening
6. Give only accurate, timely information. This cannot be over-emphasized.
7. Include information on the wholesale meat market.

From this study, it was evident that livestock farmers need and want more information and would use more market information. Present information could be improved. In recent months many improvements have been noted; these can be attributed to the use of the Illinois interior reports and the recommendations from this study. It is essential for a successful market news system that the news be used by media serving area farmers. Radio, newspaper and TV farm editors and others must be sold on the value of such a service to their customers.

The farmer wants information to assist him in deciding what to produce and when and where to buy or sell. This involves two separate types of activities: (1) Fact reporting, and (2) interpretation of facts. In only rare instances will one person have the capability of doing both jobs. The market reporter can provide information on volume, prices, and other pertinent factors affecting today's market. But an outlook specialist should interpret what this daily news means in relation to prices next week, next month, or next year.

Farmers in this study were interested both in a weekly summary of market activities and trends and in periodic statements concerning the outlook for future production and price trends. These livestock producers were particularly concerned with conditions in other sections of the country that may compete with them either on the buying or selling side of the market.

"Market intelligence" is used as a broader term than "market news" to indicate, in addition to volume, grade, price and the other factors usually considered, additional factors that may have a bearing on the overall appraisal of the market such as crop conditions, attitude of buyers or sellers and other subjective factors.

For livestock and many other agricultural products the marketing system of the future will probably place less emphasis on the terminal markets in both physical movement and pricing. Coordinated production and marketing arrangement will probably become more prevalent. Greater variations also will arise in the bundle of services included in price. As specialized agricultural production becomes more widespread, the importance of making the right decision becomes increasingly important. This complex of information provided by market intelligence reporters will provide the basic sources of information to make these vital decisions.

Conclusions

As marketing channels change, market news must also change. The entire livestock economy uses such information in decision-making. The information should be timely and accurate. Information is wanted both on market facts and on interpretation of these facts.

Two questions are raised:

1. Must a reporter be a one-commodity specialist?
2. Must he personally see every item at an auction sold to report that market?

Every sector of the livestock economy is interested in the further development of any aspect of the industry that will encourage an efficient production and marketing pattern. Adequate information to aid in decision making is one such development. While the market news system has been effective and helpful it must be continually adapted to changing conditions if it is to serve efficiently the producers of livestock, grain, and other basic commodities.

RESEARCH ON CENTRALIZED PROCESSING OF MEATS FOR RETAIL SALE

R. W. Hoecker
Agricultural Marketing Service
U.S. Department of Agriculture

In 1955-56, the Department analyzed the frozen meat prepackaging situation and published Marketing Research Report No. 137. In that report we concluded the sale of meats processed in central plants would probably be on a more local level and that retailers would demand some product control before this system became widespread.

We also concluded a preservation system was not essential to this process. New films and proper care would give us enough shelf life without freezing.

We began looking at the small-scale central cutting operations which various firms had tried. What we found was mostly failure. The reason for failure most often quoted was a failure to anticipate sales. This seemed to be a factor we could do something about. Some of the firms in central meat cutting were not really concerned with running a good meat department. It was just a way of serving small stores.

The next step was to find a retailer in central cutting, or one who would like to be. We found a firm that was cutting in one plant for four stores — three of which were good sized supermarkets. The firm had been cutting meat centrally for 10 years.

When we started our study we found a "going" operation but its success was hinged on a multiplicity of deliveries. We found they made 62 deliveries per week to the retail stores. This then was a traditional self-service meat market operation — it was just farther from the case to the backroom. No store personnel serviced the display case, only the delivery driver.

We provided some engineering assistance to improve their production and handling. Most of the problems in the stores related to keeping the product in the case. Very often much of the case contained no meat at all or a very poor selection. Discoloration problems were severe. The company was using the newer polyester coated cellophane and this seemed to be helping. Rewrap percentage was low, but this was no real criteria as the stores tended to sell out of a lot of product.

Out of this study, one point became quite clear. The key to central meat cutting was store control.

Dr. Naumann, of the University of Missouri, has been conducting tests for a number of years on the effects of sanitation and temperature on the shelf life of meat. These tests proved rather conclusively that these factors are the principal reasons for rapid discoloration of fresh red meat. Using good sanitation methods and holding temperatures to the near freezing point extended the shelf life of fresh meat to 7 days before noticeable discoloration began to occur. We feel that practical methods of sanitation and temperature control which would extend shelf life of fresh red meats by another 24 to 48 hours can be maintained under actual operating conditions without excessive costs.

Three to four days of shelf life make packaging of fresh red meat from a central processing plant entirely feasible, especially since approximately 70 percent of a supermarket's weekly sales occur on Thursday, Friday, and Saturday. Four days of shelf life would allow a central plant to produce a day in advance, which means that only one store delivery a day would be needed.

Contrary to what many people in the industry think, adding to the shelf life of fresh red meats will not in itself guarantee the success of packaging these products from a central plant. Shelf life is not the main reason that centralized packaging of fresh red meat has failed in the past. Adding shelf life might easily have caused more firms to have undertaken a central plant operation — and most probably without the services of the one tool they most desperately needed. Consequently, without this basic tool, we would most probably have witnessed many more failures than we have.

What is this basic tool I am referring to? The tool we must have to insure an efficient central plant operation is — adequate production planning and control. Production planning and control cannot be over emphasized. This tool — with its implications — is the "missing link" needed to make central packaging of fresh meats a success. Without an excellent and efficient production planning and control system central packaging cannot work profitably if it can be made to work at all.

What Does Production Planning and Control Do?

We know that production planning and control is a basic requisite of good management. It ties together and applies all phases of industrial engineering — and is the coordination medium of good management. A concern can never be fully efficient without it. The necessity of production control in centralized prepackaging arises from the fact that the organization can continue to operate at a profit only if it is able to supply the required amount and quality of the desired items at the proper time and at a cost that will provide a satisfactory operating margin. This requires adequate planning of all of the activities associated with production — coupled with follow-up to assure performance according to the plan. It has been determined through experience that if the planning and control are done by management as a service function rather than by operating personnel, they are usually more effective and are accomplished more efficiently.

What are Some of the Specific Functions Involved in a Good Production Planning and Control System

1. —Central production control. —This is the coordinating and controlling function of the entire production planning and control system. Activities are both preparatory and executionary since it receives and closes out all orders, releases schedules, and follows up all other functions.

2. —Order preparation. —Order preparation means preparing and distributing all necessary paper work to appropriate personnel, with instructions as to its use.

3. —Scheduling. —Scheduling is the determination of when each item or sequence of operation must be performed. This function is the responsibility of the division and meat supervisor.

4. —Cost control. —This function consists of analyzing, reducing, and controlling costs connected with the planning, processing, and assembly of orders.

5. —Materials control. —The materials control function includes ordering, recording, and stocking of necessary packaging materials. This function is the responsibility of the central meat plant manager.

6. —Inventory control. —Inventories which are adequate to meet demand but yet not excessive. This function — and its extension — is also the responsibility of the central plant manager.

7. —Dispatching. —The activities under this function are seeing that the items are produced according to the company's quality standards and are shipped to the stores as scheduled. Primarily, the function belongs to top management, and its execution is one of the duties of the central plant manager.

8.—Accumulation of information. —The purpose of this function is to accumulate movement and other information to improve the accuracy of future planning and reduce the amount of work involved. This responsibility belongs to top management and the meat supervisor.

These functions are the more important ones, although of course, there are others that might be listed under the term "Production Planning and Control." You can easily see that such a list of objectives can be accomplished only through the use of a carefully organized system that is adequate in scope, reliable, and efficient. Yet, the system must be simple, relatively easy to install, and easy to control. Sounds like a big job — it is.

Installing an Efficient Production Control System

The success of a centralized meat packaging operation depends upon the keeping of adequate and accurate records. Management must be willing to undertake an efficient record-keeping system on a daily basis, since an accurate knowledge of the amount of sales on a per item basis is essential for efficient production scheduling. Good production scheduling insures that the product will be in the display cases at the proper time, holds shortages to a minimum, and assists the meat manager in maintaining a balanced workload.

The design and use of forms will vary according to volume, the number of stores serviced, and company preference.

The Future of Central Meat Processing for Retail Food Stores

Central processing of long shelf life meat products has been a long-time trend in the meat business. Meat packers have made noticeable strides in the preparation of meat products, other than the carcass. Pretrimmed beef carcasses are but a step further in this direction.

Central delicatessen plants producing retail packages of cold cuts and similar items seem to be moving closer to the retail market, although this, too, has become a centrally prepared product.

Centrally processed fresh meat cuts will probably follow for many self-service meat departments. Recent industry statistics, however, point to the fact that in the United States nearly 50 percent of the volume of fresh meat is still sold service.

No central meat program can be a careless program. As a result, we expect much of this retail cutting to be done in central plants controlled by the retailer and much closer to the point of sale. With technological advances a long-term trend might move these back toward the meat packer.

When and if adequate preservation systems are developed for fresh meat they can be utilized in these processing plants with no noticeable change in the operations. In other words, we look on these methods of preservation as helpful, but not really necessary. This does not mean they wouldn't be welcome, however.

There are several advantages to central processing of fresh meat.

1. Less investment in equipment. —Michigan State University estimates a saving of 1/3 in the retail store for handling centrally packaged frozen meats compared to conventional methods. We estimate the saving in handling fresh meats to be about the same or a little higher. When the processing plant is serving three or more stores this saving may begin to be real in that central plant equipment costs will be less than for retail stores.

2. Reduced space requirements for processing. —Michigan State University estimates a saving for frozen meat of around 1,100 square feet for a large market. Our estimates would be higher, however, they are based on more square footage for the meat department. Therefore this suggests a lower percentage saving. Our work would indicate about 60 percent saving if some service is still provided.

3. Economies in labor. —Michigan State University suggested labor saving of 80 to 90 percent at the retail store for frozen meat. We suggest the retail meat department labor cost may run 1-1/2 to 3 percent of sales depending on the service for special cuts provided. This would provide a 60 to 80 percent saving at the store. However, most of this saving would be used at the central plant to process the meat, and ship it. As meat departments grow in size the use of labor becomes more efficient. Central plants allow small volume store operators to become as efficient as the biggest retail stores.

We do not think central processing will provide major labor savings at first. These savings will come as systems of mass production are developed for handling large volumes of meat on an assembly line basis using special purpose equipment. We do think central processing will result in a better use of the labor a firm has available. Skilled cutters will go to the central plant; people with strong abilities at display and customer contact will stay in the stores.

4. Better and more economical supervision. —The central meat plant will bring the processing operation under the control of a plant manager. This is one of the necessary steps to efficiency.

5. More efficient distribution of retail cuts. —This may be the principal advantage of a central meat plant. Product can be distributed according to sales need, and the merchandise can be in the display case ready for sale. The meat department can be in business all the time the store is open.

Most of the disadvantages which we have listed for the central meat plant are being overcome.

1. Increased importance of adequate records and inventory systems, to provide a method of forecasting sales accurately.

2. Increased frequency of delivery. This need not be a problem with adequate records. Most stores get too many deliveries now, tying up the clerks with frequent calls to the back door.

3. Difficulties in maintaining adequate and orderly displays. This, again, is mostly a record problem, but adequate policing of the cases must be provided.

4. Reprocessing of unsold retail cuts. This can be controlled by adequate records, but also personnel in the store are needed to keep the overload merchandise out of the case and to rewrap torn packages.

5. Lack of meat department activity. This could be a most serious objection to central meat processing. However, we think the last three objections all point to one problem. Who will take care of the meat department?

We feel, as probably does most management, that the meat department needs (a) personal contact with the customer, (b) a means of handling special orders, (c) someone to police and service the case, and (d) someone to display the meat and handle orders and records. Therefore, this responsibility should be given to a man at the store level. He should be a meat cutter with customer appeal.

PROGRESS REPORT ON A KANSAS INSTALLATION

Lowell Mohler
Kansas State Board of Agriculture

Detailed observations of meat departments during store studies have shown that a substantial amount of time is lost and energy wasted because of inefficient handling methods, poor housekeeping, lack of organized work procedure, and, in some cases, structural bottlenecks, disorganized workplaces, and inadequate equipment. Too often because of the lack of planning and good methods the prime objective of the department becomes one of hurried handling of products in an attempt to catch up on work that is accumulating faster than it can be accomplished.

In almost every case, a program of good methods and planned procedure will eliminate much of the unnecessary work now required and will decrease the time to receive, block, cut, trim, wrap, and display. Better use can be made of time. In particular, time and effort can be saved in the multitude of odd jobs which occur in meat departments, providing more time to do more promotion or merchandising which will help department sales and increase gross margin, and permit the crew to handle a larger volume.

Work Simplification

In conducting a store study, work simplification is very important. It is merely the organized use of good common sense. Faster or harder work, speeding up the necessary and unnecessary elements of an operation, is not the answer. Smarter work is the only way to become more efficient.

In one of the most recent supermarket studies conducted in cooperation with Kansas State University, we found poor layout and resulting work methods playing an important part in increased labor cost in the meat and produce departments. This is true in many markets we have visited. This study was conducted in a large volume market located in Wichita, Kan., and one of the 587 serviced by the service wholesaler. It had been in operation only 6 months at the time of the study. It was considered by many as one of the most modern, efficient supermarkets in Kansas. However, the study showed that there were inefficient methods and equipment being used in every department.

The study, which was conducted for a 2-week period, involved a complete analysis of the 4 departments: dry grocery, meat, produce, and frozen foods.

Following is a step list of information taken during the meat department study:

1. Sales per week, per man-hour, and per linear foot.
2. Labor percent — Labor is the largest expense item and accounts for over 50 percent of the operating costs involved. Here is how one hour of labor is "used" in a sample company:

	Percent
Delay time	16.3
Busy work	6.0
Nonproductive work	22.5
Work due to poor equipment	15.0
Productive work	40.2

(So when the meat cutter or helper is 40 percent productive and the wage scale is $2 per hour, it costs $5 per hour to cut meat.)

3. Ordering procedures
4. Receiving procedures
5. General layout, maintenance and resulting work methods
6. Cutting and blocking methods
7. Wrapping and pricing methods
8. Customer traffic observations
9. Merchandising and servicing the meat display
10. Recommendations and costs involved for the steps above.

A number of slides and movies were taken during the study as they are the most important visual aid used during the presentation to the store owners, supervisors, and store personnel.

After all data were accumulated, the complete report was presented to the staff office, key personnel at the Wichita division warehouse, and the supermarket owners and department manager. After the report, the company requested the study be given to the other divisions located in Kansas City, Mo., Topeka, Kans., Oklahoma City, Okla., and Houston, Tex. This followup to the other divisions, proved to be as beneficial as the original presentation to the Wichita division.

The purpose of this study was to provide the supermarket and the service wholesaler with an objective analysis of present work methods in a new supermarket and present recommendations for needed improvements. At the present time, many of the recommendations made during the study have been initiated. As a result of these recommendations and the other factors listed below, total store volume has increased $24,000 per week with an increase in tonnage moved of 40,000 pounds. The meat department sales have increased $7,000 per week, with 10,000 more pounds of meat sold.

This increase has been achieved by:

1. Better work methods and layout providing for efficiency and lower labor costs.

2. Improved customer traffic flow.

3. Improved merchandising and more attractive displays.

4. Lower prices, more specials, and increased service, which resulted in more people shopping at this store.

In most cases the consumer and producer both benefit from these studies. The consumer is able to buy more advertised specials, shop in a more attractively arranged store, and have better service. With increased store volume, the producer finds a better market for his product.

POULTRY AND EGGS

ORGANIZING TO INCREASE EFFECTIVENESS IN SELLING EGGS

Berwyn B. Gehgan
North American Poultry Cooperative Association

The "North American Poultry Cooperative Association" is a corporation registered in the State of New Jersey, with a total membership of 23 producer cooperatives, 17 egg cooperatives, 5 poultry cooperatives, and 1 for the purpose of our obtaining a cooperative source of butter for the jobbing requirements of the Institutional Division. These cooperative members are located in most of the States East of the Mississippi, and from the Gulf of Mexico to the Canadian Border. "North American" commenced business in May of 1953, as the Northeastern Poultry Cooperative Association," and at that time its membership was limited to egg cooperatives located in the fourteen Northeastern States.

The purpose for organizing our Association as originally worked out by the founders were as follows:

"The agency will be set up to provide coordinated action to (1) prevent dumping, (2) stabilize the market, (3) avoid wasteful duplication, (4) provide a means of exchange of current market information, (5) develop new outlets and all services that will further the orderly marketing of eggs and poultry products for its members.

"It is anticipated that through actual buying and selling operations, the agency can develop into a voice for Northeastern poultryman in the marketplace."

It is to be emphasized that while the Association was envisioned and founded by cooperative leaders, the need came from recognition that many unsolved problems existed in the industry which might be solved by closer cooperation of cooperatives. While the cooperatives were to be the instrument, they were not to be the sole benefactors; whatever could be done to improve the marketing of their products would also be beneficial to others in the industry.

"North American" has made progress toward accomplishing these objectives. The first objective, "to prevent dumping," has afforded the most obvious results for the simple reason that the number of cases of eggs coming to the organization in the form of weekly quotas under terms of the marketing agreements has been greatly exceeded by the voluntary shipment of surplus eggs. Instead of the Association's unloading these temporary surpluses to dealers with results which would more often aggravate or compound an unfavorable market situation, sales have been made through the member's own agency where the first consideration was to dispose of the eggs without adversely affecting the price level.

The second objective, "market stabilization," derives some support from both the movement of surplus eggs as well as from assistance provided to minimize duplication of effort or harmful competition among members, but more positive results stem from direct participation in trading activities at the New York Mercantile Exchange. These results accrue directly to all producers. Through "North American" membership in the New York Mercantile Exchange their producer members now have daily representation on the floor of the Exchange where daily trading constitutes the major process by which prices are determined.

Some measure of consideration by the market quoting agencies has come about because of the relatively large volume of eggs handled by the central marketing agency. Street sales alone, however, have been much less a factor than Board sales in establishing a basic price. The preference attached to sale prices at the New York Mercantile Exchange by the Urner-Barry market reporter, I believe, is predicated upon the fact that they are usually a pretty accurate barometer of values and they are a ready means of substantiating price changes.

The stabilizing influence resulting from actual participation in Exchange Trading, though intangible, is probably of as much benefit to the producer, dollarwise, as the combined increment obtained from all of the Association's other objectives.

The New York Market is referred to as a marginal or surplus market. It undergoes a series of recurring price cycles — peaks and valleys. Generally, it has gone too high and too low. This characteristic is not conducive to the orderly marketing of a perishable commodity. The interval of stability is dependent to a great extent upon human factors. The flow of eggs into the market can be accelerated by advancing prices but the outflow slows down when prices go too high and the increment of price decline necessary to induce a normal clearance will depend upon how quickly corrective action is taken. Drastic price drops occasionally become necessary to overcome the inertia of a glutted market because the trade was unwilling to sell the market lower until the relationship of supply to demand became critical. Someone has to take the initiative to turn the market down before reaching the critical stage, and conversely, someone needs to cushion the sharp declines to prevent excesses in the other direction.

In spite of what appears to be some built-in features of instability, the industry as a whole seems to prefer a price quotation which is now almost national in influence and character. The industry does criticize the price discovery process in New York, from time to time, but they still are willing to allow a small group of dealers to do the actual mechanics of price determination. The buyer of eggs, whether he be representing a large national food chain, or a small organization, will buy his requirements based on a price quotation in which he takes no part in the making. "North American" does those things that have been described as part of its objectives, but does not do the whole job of marketing eggs for its individual members. In other words, it supplements the marketing of its individual members and participates in the price-making process, but the individual member bargains directly with the buyer to get the best mark-up possible above the basic price quotation for his retail prepared product.

The concentration of economic power is over-weighted on the buying side, insofar as the "North American" family relationship is concerned. It appears, however, that bargaining strength has been built up about as far as desirable at the present time on this example of the producer side of the ledger. The large buyers for the big chains seem to recognize the role of the central marketing agency, and that it is not directed toward them in a harmful manner, therefore they are willing to tolerate it. They would rather not do their bargaining through an intermediary such as a central marketing agency, because they feel that it is to their best interest to deal directly with the country plant. By dealing with the country plant directly they feel they can exercise a greater quality control, and can command more efficient service.

This manner of bargaining directly with the country plant does have some advantages to the more efficient plant operator. The price will be different in accordance with the quality of the product, and the service provided. We feel that over centralization often has disadvantages, particularly in that it does reduce initiative to the maintaining of the best quality and service. The way things stand at the moment it would seem that bargaining on both sides is somewhat restricted, and perhaps the producer does not fully recognize that he has more power to bargain than he may be aware of.

Interest in the Northeast is now directed toward a test case which may or may not demonstrate what can be done to strengthen further the bargaining power of producers by the NEPPCO project "Custom Farms, Inc." Custom Farms is offering a franchise program to producers or dealers that will conform to their quality and marketing specifications in a brand name promotional sales program which was initiated in Rochester, N.Y., the week of October 30. This is a premium-priced retail package which has the objective of convincing the housewife that she can get a better quality product for a few cents more than the supermarket housebrand. The conclusion to be proven is that if the housewife wants the branded product the national chains will carry it. If this objective is achieved, it will prove that you can promote the sale of a more or less inelastic product such as eggs at premium prices, and that the most efficient producer can thereby be rewarded through better bargaining power obtained by building a preferred demand for his branded product.

WHAT CAN ORGANIZED SELLING DO TO IMPROVE POULTRY MARKETING

Bruce F. Failing
The Beacon Milling Company

You may not agree with my definitions or interpretations but my concept of marketing encompasses four major areas: (1) Market and marketing research, (2) advertising, (3) sales, and (4) sales promotion.

My approach to this topic is to present an organized marketing plan by concentrating on two areas, market and marketing research and sales. This type of plan is applicable to one producer or a group of producers. For the purposes of this discussion, all of you pretend that you are a processor responsible for selling the consumer product. You have experienced the past few months of catastrophic prices — your mind is whirling with all of these thoughts:

Live prices too low — producers losing money — local supply threatened — wholesale selling prices too low — 19-cent fryer features — 29-cent turkey features.

The first consideration in the organization process is your mental attitudes. Is the poultry meat industry basically sound and do you have faith in its future? If you don't, you better get out because nothing was ever sold with a defeatist's attitude.

To reaffirm and strengthen our faith, let us examine the products (chicken and turkey) in relation to competitive products. Chicken and turkey will convert more efficiently than lamb, beef, or pork. This means a lower cost of production. Both chicken and turkey can be profitably sold to the consumer at a lower retail price than competitive meats. Chicken and turkey rank first and second nutritionally as compared to the red meats. Both items are generally liked by the consumer. Here we have two products that can be produced cheaper, profitably sold at a lower price, nutritionally tops, and well accepted — a marketing opportunity unparalleled. How can anyone not have faith in the future of the industry? These products can and will be profitably sold. It is our responsibility within the industry to find the answers.

As a seller and distributor, the first place to look is at your present market. Where is your market geographically located in relation to your supply and processing facilities? Nearly half of all broilers are marketed over 400 miles from where they are processed. Are you ignoring markets in your own backyard or hauling your product right by smaller but closer markets? What is the type of market that you are currently serving? What is the consumer product preference? For example, concerning broilers, do they prefer fresh or frozen, whole or cut-up, whole cut-up or parts? The answers to these questions will tell you whether your product emphasis is correct. What motivates the consumer in your market? What factor or factors primarily determine the in-store decisions or impulse purchases? Are these factors (a) Price per pound, (b) price per package, (c) quality of product, (d) brand merchandising, (e) appearance of product, and (f) weight of the package?

The answer to these questions should give you a guide as to the form and type of product to market.

The next consideration concerning your present market is its size. What is its potential? Some of the points to consider in estimating the potential are: (a) Population, (b) per capita income, (c) per capita consumption of poultry, and (d) the retail outlets — the number of each type (independent, co-operative chain, corporate chain), the relative strength of each, pricing policies, and physical display equipment. For example, if you are promoting frozen poultry, what is the average frozen poultry display space available?

The next organized step is to know your competition. What selling and product advantages does your competitor possess? Examine your competition, determine their weakest points, then aim your merchandising and sales effort at this vulnerable area.

Now that you have examined your market and your competition, analyze your own operation in relation to your market and competition. Realistically list your competitive advantages and disadvantages. In this phase, you, as a seller and distributor, must look at competition from within the industry, as well as outside competition. Determine the one single, main competitive advantage which you enjoy. Does your present market offer the opportunity to exploit your main competitive advantage? If it does, are you capitalizing on it? Do you have sufficient supply to serve adequately your present market? Do you have good quality control from day-old chick or poult through to the retail outlet? These factors are all vitally important in developing a successful marketing program. If you are considering brand merchandising, the retail people are vitally concerned with continuity of supply and consistency of quality.

You have now laid the necessary groundwork and are ready to plan a sales campaign. You must develop sales aids to be used in personal contacts. A descriptive brochure, succinctly outlining the advantages your product offers to the retailer and the consumer. These advantages might include such things as better quality, less shrink, longer shelf life, better distribution facilities, point-of-purchase material, and consumer advertising. You must convince the retailer that you have a superior product which the consumer will prefer. This means greater tonnage and greater profit to the retailer. In the case of a branded item, you must be able to convince the retailer that your advertising and promotion program will pre-sell the consumer before she enters the store.

Armed with the sales aids and product samples, the next step is to call on the retail poultry buyers. The printed material shows planning and organization and makes the buyer realize that the decision to launch the program has been made and whether he participates or not, many competitors will join the program. Well-prepared material adds prestige and strength to the total program. The brochure serves another very vital function — it transmits the complete story to other people of authority who must make or concur in the decision, such as a buying committee. The buyer calls are time-consuming and expensive but there is no more effective method of selling than by personal contact. The average poultry processing plant today (which includes all types, such as canners) has one and one-third full-time salesmen. Relate this to the fact that nearly 50 percent of all broilers are marketed at a distance of 400 or more miles, and you readily see that distance and time practically prohibits personal sales call. Telephone selling at its best is primarily a price proposition. There will always be a need for telephone selling, but there is a definite need right now for more personal selling work.

The purpose of the buyer calls is to procure distribution. The product is never completely sold until the housewife places it in her shopping cart. This emphasis is more important when talking about branded merchandise. For this reason, the next step is essential, particularly with a new product or introducing a new brand of an old product — store calls.

Store calls can only be made in chain store outlets with the division headquarter's permission. It is necessary to convince the chains that you are performing a valuable service function in this capacity. The purpose is to inform the store personnel of the proper method of handling your product for the greatest consumer satisfaction. Store personnel can make or break any product by the manner in which they handle, sell, and display it. You must have their confidence and goodwill.

All of these steps take time, planning, organization and manpower. These steps represent an organized selling program. This type of program can be implemented in various ways and can represent varying numbers of producers, but one individual or group must be the coordinator. It can be handled through an organization such as Wyn Gehgan represents, or by a feed company such as the work which I am doing for Beacon Milling Company on behalf of our customers. Someone or group of "someones" must provide the leadership, know-how, manpower and capital. I don't feel that, "who does it" is nearly as important as "how well they do it." I don't feel that the number of producers represented is as important as the degree to which the producers are represented.

In conclusion, the quality of the organized selling approach is much more effective than the quantity. The basic strength and advantage of organized selling stems from the careful execution of the main steps enumerated — not from the size of the group represented. There are many examples of individual producers successfully and profitably serving small, selected markets.

The most effective bargaining tool that any seller can possess is a consumer demand for his product. You people are in a position to offer invaluable service to the industry and become an essential part of the program. I am referring to the area of market and marketing research. Study, examine and analyze the markets in your own State. Interpret the information for your sellers and distributors, trade such information with other State marketing people. Basic, accurate, market research is essential to the success of any organized selling program. I am convinced this approach will improve poultry marketing.

NEW EGG PRODUCTS MAY BE THE ANSWER

Robert C. Baker
Cornell University

There is considerable interest today in new egg products. Most of this interest has been generated because of the growing concern of lowered egg consumption. This subject of lowered egg consumption is a controversial one at the present time. However, egg consumption is not going up, or even holding its own, and the industry should be concerned.

Before telling you about some of the new egg products that have been developed at Cornell or elsewhere, I would like to give a little background of why we got started in this business. Dr. Darrah, of our Agricultural Economics Department, who works with me on new egg products, conducted a survey in Syracuse, N.Y., to find out why people are not eating as many eggs as they used to. The survey included approximately 1,000 families.

Among the more common reasons given for people not eating as many eggs were: (1) Don't have time to prepare eggs, (2) children don't particularly care for eggs, (3) have a coffee break at the office and don't need a hearty breakfast, (4) health reasons, and (5) eggs are too messy — one has to dirty too many dishes.

After analyzing the results of this questionnaire, we decided that the poultry industry definitely needed a variety of convenience. Many women worked, and they felt that they just did not have enough time to prepare eggs for breakfast. To our surprise, approximately 75 percent of the families interviewed in Syracuse did not eat eggs regularly for breakfast.

We were also surprised when we discovered that 50 percent of the grocery-manufactured items on the shelves in chain stores today were not there 10 years ago. This means that somebody has been busy developing new and convenient items, but it definitely has not been the poultry industry.

One advantage of convenience items might be to move surplus eggs off the market. We all know that a small surplus of eggs today can cause the price to go way down. Economists tell us that eggs are inelastic, and a shortage or surplus causes wide fluctuations in price. People, by habit, eat just so many eggs; and if we should have a 3 percent surplus, for example, the price would have to be lowered extensively to get people to buy this extra small surplus. Economists also say that eggs are more inelastic today than 10 to 15 years ago. Ten years ago a small surplus of eggs did not cause the price to go ridiculously low.

Convenience items might be the answer to preventing the wide fluctuation in egg prices that we have today, because they probably will not conflict directly with the sale of eggs. People who buy convenience items, in most cases, will not substitute them for eggs. These people, or most of them, buy convenience items because they do not have time to prepare eggs. It is possible that we could use surplus eggs for convenience items.

We started working on new egg products at Cornell University in October 1959. Our first product was a Frozen French Toast. It is strictly a convenience item, because all one has to do is drop the Frozen French Toast in the toaster, and in one minute it is ready to eat. Each piece of toast contains one-half egg, and most people feel it is as good as homemade French Toast. We had many problems in perfecting the product, but the details have been worked out.

The French Toast was market-tested last summer, and the sales were excellent, even without advertising. If every chain store in the United States would sell the product as well as it sold in the market-test in Ithaca, it would mean an outlet for approximately 6,000,000 extra eggs each week. Anyone who would like the details of our Frozen French Toast can get them by writing to me at Rice Hall, Cornell University, Ithaca, N.Y.

Another convenience item that we have market-tested is cooked and colored Easter eggs. We found that this product sold well; but, of course, there is a limited time for sale. Many people told us that they bought the prepared Easter eggs to save the mess in the kitchen. Other people said that they bought them instead of candy for either their children and grandchildren. The cooked and colored Easter eggs were sold in colorless, plastic egg cartons.

A new egg product that we hope to have on the market before too long is Apple-Egg Drink. We chose apple juice for this product because New York is an apple State. This Apple-Egg Drink, which we will market-test under the name of "TREN" (Tree and Hen), will contain one egg per glass. We are appealing to mothers who don't have time to prepare eggs and also to those who have trouble getting their children to eat eggs. This product will be a breakfast in a glass, and how could it be simpler? It will be sold in cans, so there will be no problem with bacteria.

We also have an egg cookie which we plan to market-test before long. This, we hope, will be a way of getting children to eat their eggs. At the present time, we have approximately one-third of an egg per cookie. All the child has to do is to eat three cookies, and they will have their egg for breakfast.

Another egg product we have about ready to go is egg soup. Here we are using dehydrated eggs and dehydrated vegetables. We also have been working for several weeks on egg meringue in an aerosol. We still have some problems connected with this product, but we hope to perfect it before too long. Other products that we have just started working on are instant frozen scrambled eggs and egg chips.

In addition to new convenience egg products, we have also been working on new ways to merchandise eggs. Some have been successful in our market-testing program, and others have not. One successful item was our "Kids Pak." Here we had a carton labeled "Kids Pak" with several appropriate drawings that were appealing to children. The cartons also had the following wording, "Twelve small eggs packed especially for Kids."

Right now we are market-testing eggs in a new "time-sealed" egg carton, and the sales are very good. The eggs are sealed into a polystyrene film soon after they are laid. Carbon dioxide builds up inside the film and preserves egg quality. All one has to do is pull a tab and the film is removed from two eggs at a time. The rest of the eggs remain sealed.

Other universities are also working on new egg products. To name a few, Dr. William Stadelman, at Purdue University, has worked on a frozen fried egg that is placed in black aluminum foil. All one has to do is drop the frozen egg, packaged in the foil, in the toaster and let it warm up. He has also worked on several egg spreads and Egg Cantonese. Egg Cantonese will go well as a convenience item. Dr. Owen Cotterill, at Missouri, is working on the details of Orange-Egg, which is made up of orange juice and eggs. This is an excellent product and will have great appeal to the consumer. Professor Paul Margoff, at the Pennsylvania State University, has worked on new poultry and egg products for years, but he has specialized mainly with the poultry meat convenience items. Other universities that are working on new egg products include Ohio State, Kansas State, V.P.I., the University of Georgia, Iowa State University, and Connecticut.

The Quartermaster Food and Container Institute for the Armed Forces in Chicago now have a pre-cooked, dehydrated scrambled egg product that is very good. All one has to do is mix hot water with the dried powder and the result is scrambled eggs. Our Poultry and Egg National Board, under the direction of Kathryn Belle Niles of Chicago, has also been working on new convenience egg items. One example is their egg loaf, which is a perishable product for refrigerated distribution.

The spark has been ignited for new egg products. We still have a long way to go, but I feel sure that we will get there. New egg products should help the poultry industry; they surely cannot do any harm.

EXPANDING EGG OUTLETS THROUGH NEW PRODUCT DEVELOPMENT

Curtis Collier
Poultry and Egg National Board

All segments of the commercial egg industry are proud of the product we offer for sale to the consumer. Of the basic foods the egg stands out in its nutritive value. The versatility of the egg is unquestioned. Eggs are good at any meal in hundreds of different ways and combine with most any other food. Contrary to some opinion we feel that the egg compares favorably with other foods in ease in preparation. Certainly we of the egg industry are proud of the economy offered in the egg as a high protein food buy. When large eggs are selling for 50 cents per dozen they are selling for 33 cents per pound.

In view of the products produced and offered by the egg industry you can understand our concern for a declining per capita consumption.

It is estimated by the U.S. Department of Agriculture that per capita consumption of eggs in 1961 will be 334 eggs. In 1957, it was 358, representing a drop of 24 eggs in 4 years. This is of vital concern when you realize that only in 4 years this has removed from the market of the producer the demand for 12 million cases of eggs per year. The feed manufacturers have lost a market for 1,000,000 tons of feed per year, and the hatcherymen have lost the sale of 18 million pullet chicks per year.

Members of the Board of Directors of P.E.N.B. have been studying the problem for years and have made the following observations and conclusions:

1. Americans can only eat about 4-1/4 pounds of food per capita per day, and all foods or food products compete through promotion to be included in the food consumed.

2. The consumer is anxious for and is bombarded with an ever-changing list of new food products. For example, it has been estimated that 25 to 35 percent of food sales today come from products introduced within the last 10 years.

   One large company in the food product manufacturing business recently reported that 70 percent of its volume is accounted for by products developed since the close of World War II.

3. It was obvious that the egg industry had not kept pace with other basic foods in developing new products and the obvious reasons for this was lack of funds and coordination and cooperation among the industry.

When you compare the egg industry with the milk industry, the potato industry, the cranberry industry, the citrus industry, or the cereal industry, you realize the problems involved in raising funds for egg promotion and product research at some specific point as the egg travels from the producer to the consumer.

Milk, for example, goes to a central plant where it is processed for delivery to the consumer; here check off for research and promotion is easy.

Crops such as citrus or cranberries are localized in specific areas of the Nation where it is comparatively easy to bring about cooperative and coordinated action.

Even the potato industry has the bulk of its production limited to smaller areas where funds have been easier to raise to provide for research activity.

The grain that goes into cereal manufacturing goes through a large processing plant where many changes are made and funds are collected for more research for more products.

The egg industry on the other hand is scattered from Maine to Oregon, and from California to Georgia. There are thousands of people marketing eggs either direct from producer to consumer or through very small plants, hence, making the collection of funds complex for the purpose of promotion and research.

Three years ago the P.E.N.B. took steps to bring about a systematic program for raising funds through a producers' check-off program, and the funds raised have climbed each month since the program's conception.

Two years ago this week, P.E.N.B. entered on a new official phase with its first meeting of the "New Products Development Committee."

Purposes of the committee were as follows:

1. To learn what research has been done, is being done, and needs to be done in the future.

2. To learn what tools and facilities were available for this work and where they were located. This involves men, money, and materials.

3. To find ways to strengthen communications in lay language between the test tube and industry.

4. To use the Committee as a clearinghouse where hundreds of ideas (perhaps some gold nuggets) could be pooled, screened, and some of them engineered to the marketplace.

5. To demonstrate clearly to the Committee that the egg industry felt the urgent need for the development of new products to remain in competition with other foods.

   It is our feeling that through this Committee we have taken a positive step toward finding ways to stabilize the many routes on which eggs travel from the farm to the family table.

It became obvious to the Committee that many of our land-grant colleges had been working on new egg products for many years. P.E.N.B.'s new products committee gave these folks an opportunity to swap ideas and and get new ideas for products, and developed new enthusiasms to get the job done.

Back to their pans, stoves, deep freezers, and test tubes these dedicated scientists went. In addition, they were joined by other people working for industrial and equipment firms as they too were stimulated to seek more uses for eggs in food products.

A little more than a year later on December 6, 1960, the new Products Development Committee met again. It was obvious to all concerned that sufficient progress had been made to release the findings to the food industry.

On April 15, 1961, a booklet was mailed to all food processors of the Nation pointing up the challenge and the opportunities presented by the egg, and the result of research by people like Dr. Baker, Dr. Darrah, and Dr. Stadelman. The response of the food industry was most heartening and already the committee is working on still newer ideas.

As the food industry invests time and millions of dollars in exploring the possibilities of the new products in this book, we in the egg industry can take pride in a great effort of cooperation and coordination to get more uses for the egg. The industry looks forward to seeing in the near future many of these new products marketed coast to coast.

DIRECT MARKETING OF EGGS BY PRODUCERS: SOME ECONOMIC CONSIDERATIONS

Harold B. Jones
Economic Research Service
U.S. Department of Agriculture

There are three things I'd like to talk about here today. First, the trend toward direct marketing of eggs by producers. Second, the economics of direct marketing. And third, the limiting factors in this type of marketing system.

From the standpoint of economics this concept of direct marketing has much to offer. By grading their own eggs and selling to retail stores producers really accomplish two things: (1) They increase their share of the consumer's dollar, and (2) they eliminate the middleman from the marketing process. Each of these objectives is commonly regarded as being beneficial to the welfare of both farmers and consumers. However, I think this raises some rather fundamental questions. Do farmers really benefit when they get a greater share of the marketing margin or a greater share of the consumer's dollar? And if so, does this type of marketing really meet the needs of the retailer and the consumer in our present marketing system?

This trend toward direct marketing, of course, is not very new. Producers have been selling eggs to retail stores for years. Nevertheless, I think we have to recognize that we are operating in a different market today. Retail food stores are now large and well organized. They are more interested in buying in large lots from central marketing agencies.

The situation in eggs is a prime example of what can happen. As producers become larger and more specialized they are better able to control quality and volume. And this is what retailers want when they buy eggs — top quality and adequate volume. When this is combined with good local service and store-door delivery there are obviously many advantages to a direct buying program.

Back in 1959, I made a study of the Georgia market and found that 30 to 40 percent of the eggs were moving into direct marketing channels. I would venture to say that most of you will find a substantial volume of eggs moving direct to retail stores in your own State.

In a nationwide mail survey made last year, the National Egg Council found that 30 percent of the producers sold more than one-third of their eggs direct to retail stores. Another 20 percent of the producers sold from 5 to 25 percent of their volume by this method. Thus, nearly half of the producers in this survey sold at least some of their eggs direct to retail stores.

If retailers can realize additional savings, they may decide to buy their eggs directly from producers. This, of course, presupposes that there are no additional costs involved on their part, at least not enough to offset the savings. Furthermore, it assumes that adequate supplies of the size and quality needed are readily available. These are pretty big assumptions, especially for some of the larger chainstores where volume requirements are heavy and quality standards are a must.

Then, too, there is the problem of distribution. The larger chains all operate a number of warehouses, and there is some question as to whether egg shipments should move direct to stores or be indirectly routed through warehouse facilities. Both types of systems are now operating, but I think store-door delivery by producers is becoming more popular, especially in those areas where commercial production has grown to the point where it can supply a substantial segment of the market.

The commercial egg producer, however, is in somewhat of a different position. Even though his goals are essentially the same as the retailer — to maximize profit — he is faced with a different set of conditions. In the past his profits have been made by the production process, by converting feed into eggs. The amount of profit he made depended, for the most part, upon how good a poultryman he was. As poultry farms have become larger and more specialized, however, producers have become more alert to other income possibilities, both on and off the farm.

Because of this, many producers have become market oriented in their outlook. Some have always regarded the marketing margin with a rather suspicious eye. Therefore, it is only natural that producers should want a share of this margin when the opportunity presents itself. This, in a sense, is exactly what has happened. By doing their own grading and selling to retail stores they have taken over this margin. In so doing they expect to receive additional profits.

I think it is here, at this point, that poultrymen need to stop and do some figuring. I'm sure that some producers have been led to believe that this margin is clear profit. This, of course, is not true. There are obviously some additional costs involved when producers perform these extra marketing functions. This is a most important point for the producer because it is this concept of additional costs versus additional returns that becomes the key factor in his decision on direct marketing.

Note that I said additional costs versus additional returns. This is not the same as comparing total costs with total returns. If we want to know the profit potential of selling eggs direct to retail stores we must compare the additional premium received with the additional costs it takes to do this marketing over and above the method of marketing now being used. Of course, there is no way of knowing ahead of time exactly what these costs and returns will be. But it is possible for each producer to estimate them in light of his own situation.

With this idea in mind I prepared the following table as a guide. It shows the amount of extra profit (or loss) per layer when marketing eggs direct to retail stores under certain cost and return conditions. Profits are calculated on an annual basis, and the table assumes a production rate of 20 dozen eggs per hen per year. This production rate can, of course, be varied to fit the poultryman's own operation. For example, if average production per layer were 18 dozen eggs we would multiply the difference between additional costs and additional returns by 18 in order to get the extra net profit per bird.

Table 1.—Amount of extra profit (or loss) per layer per year when marketing eggs direct to retail stores a/

When producers receive a premium price above wholesale of b/ (cents per dozen)	And the additional cost of grading and marketing is - c/ (cents per dozen)					
	4	5	6	7	8	9
	the extra profit per bird is - (dollars per year)					
4	0	-.20	-.40	-.60	-.80	-1.00
5	.20	0	-.20	-.40	-.60	- .80
6	.40	.20	0	-.20	-.40	- .60
7	.60	.40	.20	0	-.20	- .40
8	.80	.60	.40	.20	0	- .20
9	1.00	.80	.60	.40	.20	0
10	1.20	1.00	.80	.60	.40	.20

a/ Assuming a production rate of 20 dozen eggs per hen per year.

b/ Actual price differential between cartoned eggs sold to retail stores and loose eggs of the same grade and size sold to wholesale outlets.

c/ These additional costs should include consideration of the following items:
(1) A realistic wage for farm and family labor

Continuation of footnotes to table:

(2) A reasonable allocation for management, supervision, and overhead items

(3) The cost of additional candling and cartoning equipment

(4) The cost of providing a larger grading plant with additional storage and cooler space

(5) The cost for cartons and other packaging materials

(6) Labor and truck expenses for operating a delivery route

(7) The possibility of greater bookkeeping and handling costs

(8) A loss in grade yield when candling for the consumer market

This, in a nutshell, is the economics of direct marketing from the standpoint of the producer. Does it pay or doesn't it? Each producer will, of course, have to make his own decision.

What are some of the problems and limitations in a direct marketing system? I think we must recognize at least two basic limitations to start with: (1) The size of the local market itself, and (2) the proportion of retailers in this market that will buy eggs direct from farmers. Each of these are definite restrictions which apply to the system as a whole.

Farmers themselves have very little influence on the size of the local market, but they can certainly influence the retailers that operate in this market. They can influence retailers directly by their actions, by the way they produce and handle their eggs. They can also influence retailers indirectly by sales contacts, promotion, and publicity. Some of you may think that retailers set their buying policies with a rather cold impersonal attitude toward farmers. But I don't think this is so. If producers are ready and willing to provide what the retailer needs, then they are going to do business.

This, of course, imposes some rather severe restrictions on producers. First of all, they must have commercial flocks that are large enough to meet the need of retail stores in their own locality. They must be located favorably with respect to these stores in order to provide good service. They must have the facilities and labor to do this marketing — and do it right! They must be able to provide the quality and size of eggs needed on a regular basis — all through the year. Above all, they must have the desire and the ability to deal with retailers. In other words, they must be a dependable source of supply.

From an overall point of view it is largely a matter of coordination. Productive resources must be balanced with market demand. To the extent that producers themselves are not able to achieve this coordination other agencies in the marketing system will.

When large retailers set their buying policies I think they consider all of these things. However, from their point of view some factors may be more important than others. Some retailers will be more interested in the promotional advantages of farm fresh eggs. Others will be more interested in a standardized product, or a greater degree of flexibility in volume and size requirements. Because of this, retailers have developed many different types of buying arrangements. These arrangements vary from store to store, and also from region to region. But they are mainly based on the local egg situation, and on the ideas of retailers of what constitutes a good economical system of procurement.

If you were to ask me what kind of help producers need, I would have the following comments:

1. A record keeping system. It seems to me that there is a considerable lack of knowledge about costs and returns on most poultry farms. I would favor a system that not only provided accurate cost records, but one that would allow the production and marketing costs to be figured separately. This is basic knowledge for decision making on the part of producers.

2. A regular replacement policy on a year-round basis. This would help alleviate the seasonality problem and provide more stability in the production process. Volume of eggs produced and size requirements could be geared to fit demand more closely. This of course means producing for a stable year-round market rather than a high fall price.

3. A quality control program. This is an absolute necessity when producing eggs for retail store outlets. Good management, proper housing, and good handling practices are essential. High quality eggs must be maintained on a year-round basis, both in production and marketing.

4. A more efficient grading operation. Producers should be encouraged to adopt new and improved methods of grading and packaging eggs. Because of their low volume as compared to central grading plants they often operate at a competitive disadvantage when it comes to automatic egg handling equipment. I believe there is much that can be done to improve these marketing operations on the farm.

5. A program of education. For the poultryman this means a greater understanding of marketing channels, retailer buying policies, and the price-making forces in our marketing system. Better education leads to better decisions, which in the long run will be a vital factor in the survival of the egg industry itself.

As general as these comments are, I do believe they provide a basis for improvement, not only for producers engaged in direct marketing, but for the industry as a whole.

EQUIPMENT NEEDS OF THE PRODUCER-PACKER

Thomas F. Todd
Agricultural Marketing Service
U.S. Department of Agriculture

Many of us in poultry marketing work have been asked these questions: What kind of egg grading and packaging equipment is best? What are the best methods of operating an egg grading and packaging system?

Does a producer really need to find answers to these questions? Are they important questions? I say they are. In fact, the profit or loss, the success or failure of a producer-packer could very well be at stake. Why? Because the equipment and methods that are used will, in large measure, determine processing costs. High processing costs reduce profits. The equipment and methods that are selected will also determine the quality of the consumer package. Cartons that are marked grade A must contain grade A eggs. If not, the packer will lose customers.

Two of the most important resources in an egg packing operation are people and equipment. These must be brought together in the right combination, a combination that I like to call optimum balance. What is the optimum balance? It is that combination of equipment and labor that will enable a firm to grade and package eggs of a given quality level at minimum total cost.

Some firms are so far from this optimum balance point that their very survival is threatened. In the last couple of years I have been in a number of plants that were having cost problems. Some have very high labor costs and frequent labor difficulties, yet they continue to employ a manual grading system. Others, in their desire to be modern have invested too heavily in high-cost mechanical grading lines.

Just how can the producer-packer make the proper selection of equipment? What criteria can he use to evaluate grading systems? A producer-packer should consider the following factors:

1. What is to be done in the new plant?

2. What equipment is available to do it?

3. What are the costs of processing with the available systems?

The first factor is concerned with the operations that will be performed in the new plant, both now and in the future. Let's consider possible operations that could be performed in the producing area packaging plant. First, the system must include these basic functions: receiving, grading and packaging, packing, and shipping. To these can be added such auxiliary functions as cleaning and shell treating, or even a salvage breaking operation.

Once the producer has determined the operations to be performed, he is then ready to familiarize himself with the available equipment that will aid in the performance of the operations.

Let's briefly review the types of equipment that are available for egg grading and packaging. A grading station that is commonly referred to as a "push-pull" bench is used in an egg grading system in which the transfer of eggs from cases, the candling, the sizing, and the cartoning operations are performed manually. Labor costs are high with this system. However, equipment costs are almost negligible.

Mechanized equipment can be logically grouped by the number and complexity of the manual operations that it replaces. The first grouping would consist of those machines that size eggs mechanically. Some in this group also provide a conveyor on which eggs can be candled in single-file groups of about 6. Speed of these machines is around 10 cases per hour.

In the second group are those machines that have a wider candling or in-feed conveyor, thus permitting the operator to load 30 to 48 eggs at a time. This wider conveyor also provides for mass candling about 30 eggs on some models. Speed of operation? From 10 to 20 cases per hour. Labor costs are less than the preceding group. Equipment costs are somewhat higher.

In the third group are machines that mechanically position cartons, package eggs into cartons, and deposit filled cartons onto a conveyor for delivery to the carton closer. Speed range in this group is 20 to 40 cases per hour.

Finally, the most mechanized group to date, consists of those machines that transfer eggs to the line. This is in addition to the other mechanical features. Speed is about the same as the third group. Neither labor nor equipment costs are radically different from group 3.

Almost without exception mechanical aids such as carton closers, rotary packing tables, and conveyors are attached to the basic grading machine in order to form a line. Also, depending on the specific operation, some producers may wish to install egg cleaners, shell treating equipment, carton overwrapping equipment, or perhaps egg breaking equipment.

After having determined the types of equipment that are available, the producer is ready to obtain detailed operating and cost information of the various machines. Some of the more important facts are:

1. What output capacity can I expect to achieve with this equipment? — Just as an automobile cannot be continuously operated at its maximum speed under typical conditions, the output of egg grading machines is usually less than their maximum speed of operation. Machine stoppage is the biggest factor that reduces output. It is caused by nonscheduled maintenance, cleaning of the machine, and lot counts. Processing eggs of nonuniform quality and excessive grade separation can also reduce output.

2. Will it size eggs accurately? — This is very important. If egg weights are short then penalties may result. If they are excessive, then profits are reduced.

3. Does the machine lower egg quality in any way by dirtying, checking, or overheating the eggs? Are service and spare parts readily available? These questions are concerned with — "Will the machine do the job?" The next question is — "What will it cost to get the job done?" — or in other words — What are the total costs for grading and packaging eggs using this machine?

All other things being equal, total cost is the decisive factor in selecting machine A over machine B. Total cost is the sum of all costs. It includes the equipment costs, the labor costs, and any other costs that are connected with the use of a certain machine.

In summing up I repeat the question:

How can each individual producer determine the best equipment for his operation?

First, he should decide the type of processing operation that his plant will perform. Second, he should acquaint himself with available equipment. Third, those machines that will do the job should be singled out for further study, and last, a complete cost comparison should be used to determine the best equipment.

PROS AND CONS OF MARKETING ORDERS FOR POULTRY AND EGGS

G. E. Coleman
Nichols Poultry Farm, Inc.

Yesterday I was in Hamburg, Germany and my German friends are beginning to look at me a little as though I were some sort of a freak, since I belong to an industry that insists on producing its product for less than the cost of production; and not just for months, but for nearly a year. Last week I opened the annual meeting of the British Chicken Growers Association by presenting a few facts, as I knew them, about our broiler industry in this country which they, understandably, have been unable to understand. They were shocked, amazed and completely unnerved by the recitation of developments over the past months and those developments over the past 30 years that have precipitated the debacle in our broiler industry that has been ours for nearly a year.

I have been proud of this industry, enthusiastic and ever beating drums for it on a national and international basis. Now I am shaken and shocked, as are my international friends, that we should have worked so hard, strived so diligently, to have created this Frankenstein that threatens to destroy us — the pioneers and those more recently attached to this tremendous industry. After building for the consumer of this country and the world one of the most dynamic, versatile, tasty, nutritious meat products, we insist on giving it away at below cost of production — why?

I should like to quote for you from a talk I gave at the Virginia Poultry Meeting, held in Harrisonburg, Virginia on March 18, 1959, entitled "The Bloody Battle for Survival."

"I am indeed sorry that I could not have been with you at a happier time. As was said long ago, 'These are the times that try men's souls' and never could truer words have been spoken that apply to our broiler industry more than at this time. Let's face it. At times like this, it is hard to be objective, and many, many people turn to the negative. In the battle for survival, if you see little room for your future along the lines you have been proceeding, you are apt to first condemn the industry and, secondly, all the people in it."

Some wit has said, "You know about the time I get to making ends meet, they move the ends." Believe me, this sounds like the broiler business and there will be many who will say "This man was indeed no wit; he was, in fact a broiler man."

Remember, this was a talk I gave in the early part of 1959 and at that time I outlined the fact that we have ignored every tool put at our disposal to lick the price squeeze and I pointed out that we have these tools: "First warning: Breeder sales, which certainly give industry intentions; second warning: the number of breeders being blood tested; third warning: the number of eggs being set; and fourth warning: the number of chicks being placed. I said all these factors give ample warning to put our industry in proper focus, for we know that as little as 5 percent reduction in total production would put us on a sound basis and 10 percent would probably guarantee us a profitable selling price, with sound merchandising effort. Then why do we act this way? Who will cut? Virginia wants Maine to cut. Maine wants Delmarva to cut. Every time a gentlemen's agreement is violated we have a new crisis to meet. The battle for survival going on in the broiler industry today seems to bear a direct relationship to the battle for survival in the world, and there are many perils between what we seem to be doing and what the great powers of the world seem to be doing in the battle for survival."

Certainly historians will have a field day with this one. History is nice, but I am very much alive, very much concerned — not only for myself but for my industry and my country.

I am not an economist but a poultry breeder. I have read and reread all that is published about marketing orders, agreements, subsidies, and controls. Those who know me well know I have fought subsidy for this industry with "blood, sweat and tears." I have repeatedly stated that we have the tools, the brains, the good business sense, to adjust production to demand and I naively believed we would do it long before this.

I am certainly enough of a realist to know that the time has come when something has to be done. We live in a new world and we are an important part of that world. We cannot live in isolation. World problems are our problems. My pride, my ego and my pocketbook are hurting. I have come to a few conclusions and I am still full of questions.

1. The world has changed and we must change with it.
2. In a world threatened by the atomic bomb we must have partners and we must learn to live with them and this goes for the world, the nation, and industry.
3. The United States has the "key" to world peace — a bountiful, dynamic agriculture that will produce food for everyone in abundance. We must find a way to integrate this new science into the economy of the nation and the world in a happy, not dismal, way. Most of all, we must not let this great achievement destroy us while saving the world.
4. Although it is human to look for someone to blame, we have created most of our problems ourselves. We should know better than anyone else how to solve them and I am confident that once we set out to do it, in a typical American fashion, we'll get the job done.
5. We must face facts. First of all, facts indicate the industry, the nation and the world will be different and we must all be part of a team, whether we like it or not.
6. Nothing that I see happening will kill individual initiative, in fact individuals are becoming more and more important.
7. We must divorce emotion, that has played such an important part in our industry in the past, from logic. Above all, we must not push the "panic button."
8. We must allow free expression of opinion without recrimination and we must rededicate ourselves to the importance of the vote.
9. We must not buck trends in industry or in our nation or in the world.
10. Nothing is impossible of achievement of American agriculture once it faces squarely up to the facts. The number one fact, we have learned to produce and now we must learn to market and we must somehow find the formula for adjusting one to the other.

We should not rush in with a patched-up, hit-or-miss kind of plan to save our industry. No matter how painful the present situation may be — no matter how much we are losing, it will not be as bad — nor will as many people be hurt — if we take the time to carefully study the facts nationally and internationally and then proceed to act in the best interests of all. Some will be hurt, some will change more than others, some will choose other means of livelihood. The family farm may become a corporation or a part of a corporation, college curriculum may contain more economics and business than science, etc. The change will be for me and you as well as for the other fellow. Marketing orders may be inevitable and probably are, but they will not solve our problems without active participation of the industry and certainly not without quotas. This is a big job we are tackling and it will not be solved quickly or easily. It is built up from many years of solid production know-how of a kind the world has never seen before. I hope we will have the common good sense to take time to study our problem and to solve it on an industry-controlled and industry-financed basis. It would appear to me at this time that there are far too many people placing far too much hope for survival on a quickly made, patched-up, hit-or-miss program that will only bring more misery to an already painfully hurting group of people who have spent their lives giving the consumer the greatest bargain in a dynamic food product ever offered the American consumer. For the first time in years and years we are facing up to the problem. For goodness sakes, let's take the time to properly solve it and by putting together all the brains of this group and other groups of marketing specialists in this tremendous country of ours. I am sure we can come up with a program that will be sound for the industry, for this country and for the world.

PROS AND CONS OF MARKETING ORDERS FOR POULTRY AND EGGS

Richard A. King
North Carolina State College

Many articles have been written recently on this topic including one in the current issue of the American Egg and Poultry Review, authored by A. P. Stemberger and me, which some of you may have read. Since we are somewhat limited in time, instead of going back over these ideas, I will raise 10 questions which I believe are key issues in evaluating any specific proposal for a marketing order under the Agricultural Marketing Agreement Act of 1937, as amended.

In raising these questions with you, I wish to make it clear that as a professor in a land-grant college it is not my place to recommend favorable or unfavorable action on any proposal. As a matter of fact, as employees of State departments of agriculture I suspect that you are also in this position. However, we do have a responsibility to help people in our respective States understand clearly what marketing orders can do and what they cannot do and to raise questions which voting farm people should consider. There are 10 which I wish to suggest.

1. Is the industry suffering from overexpansion or from problems associated with timing of sales during the season?
2. Should the industry try to hold the line or expand production? Do growers in all areas covered by the proposed order feel the same on this issue?
3. Are production costs similar in all areas covered by the proposed order?
4. Is low quality a problem? In all areas covered?
5. Will limiting sales in the primary market increase revenues? Stated another way, what is the nature of the demand for this product?

6. Are there good secondary markets for disposal of the products held off the primary market?
7. Can "leakage" from the secondary market into the primary market be prevented?
8. Will higher returns resulting from successful operation of an order encourage new producers to enter? Can they do so easily?
9. Can the proposed order be policed without excessive cost? Will growers be willing to pay the cost of administration and policing?
10. Will consumers shift to other products which are close substitutes for the products whose price will be increased through the order?

The orderly marketing of agricultural commodities is a goal desired by farmer groups and by consumers. To help bring this about, the Agricultural Marketing Agreement Act of 1937 was passed. This act enables the Secretary of Agriculture to enter into agreements with producers and handlers of a limited number of commodities for the purpose of applying certain controls over their sales.

Controls differ according to the nature of the commodity. For fluid milk, the minimum producer price is directly regulated. For other commodities the controls may include the rate of flow to market and the quantity or quality of the commodity marketed. The timely application of such controls may raise producer prices and increase net returns without direct price regulation.

Control measures may be put into effect singly or in combination including: (1) Quantity regulation, (2) grade or size regulation, (3) pack or container regulation, (4) mandatory inspection or certification, (5) advertising or sales promotion, (6) research in production, processing or marketing, (7) establishment of a stabilization pool, and (8) regulation of unfair trade practices.

Producer gain from many marketing orders is based on the assumption that limiting the supply delivered to a market will increase returns to producers. For some commodities, including many fruits and vegetables, producer's gross income will be reduced by an order which limits supply. This may be true also for turkeys. Demand characteristics for commodities vary widely. Experience with one commodity does not mean the same result may be expected with another.

More than half of the Federal orders issued since 1933 have been unsuccessful and were terminated after two or three seasons. Experience shows the following market conditions necessary for success: (1) Total production of the crop concentrated in a small geographic area, (2) production conditions similar throughout the area, (3) a secindary market for diverted portions of the crop readily available, (4) a strong grower organization actively educating its members about the program, and (5) a control board quickly reacting to changing economic conditions.

The question of how to limit the supply on a market is a difficult one to answer. If acreage or tree quotas are used, weather and yield variations make it difficult to control supply. If supply is limited by strict grading or sizing, the rejects may leak back into market channels. Milk orders have had fewer troubles than other orders because controlling supply is fairly easy.

In order to regulate a commodity flowing to a market, a large percentage of the available supply must be under control. Producers of commodities grown in a limited area under similar soil and climatic conditions (for example, lemon producers) may find it relatively easy to agree on the value of an order and on its terms. However, growers of commodities produced over a wide range of climatic and soil conditions often find it difficult to agree on market arrangements.

How does a marketing order attain its basic objective if production is not restricted and price is not set? Marketing firms channel supplies of the commodity into different uses in such a way that they influence the price received for the product in each use. This brings us to another requirement for success of a marketing order. There must exist different markets for the commodity either in space, form, or time. That is, markets for the product must exist in different geographic areas such as New York, Chicago, etc.; the product can be converted into various, irreversible forms (milk into ice cream, for example), each of which is considered a separate market; or the product can be sold at different seasons of the year with each season being considered a separate market.

Ideally, there would be one primary, high-price use for the commodity, with opportunities to transform it into other products of a secondary nature selling at lower prices. For example, the primary use of milk is for fluid milk consumption, but milk can be transformed into cheese, butter, powder, etc. Each of these products constitutes a separate market since milk processed into butter cannot be sold as cheese and so on. Or potatoes for table use are a primary market with starch being a secondary outlet. Supplies of a commodity sold for primary use receive the highest price, with supplies going into secondary products selling at a lower price. When supplies of a commodity are short, marketing firms channel a larger proportion of total supply into primary use. If supplies are large enough to depress prices in the primary use, the flow into primary uses can be restricted under a marketing order, thus maintaining price in the primary use, while a larger proportion goes into secondary uses at lower prices. The producer receives a blend price, the level of which is determined by the relative amounts of total supply going into each use.

The success of a marketing order in achieving the goal of increased total revenue to producers of a commodity depends upon: (1) The existence of a number of markets (either in form, space, time or any combination of the three) with one market being a primary use market and the others being of lower order; (2) differing price elasticities of demand in these various markets; and (3) strong, central marketing agencies handling a significant proportion of the total supply of a commodity.

Price elasticity of demand for eggs has been estimated to be about -0.4, that is, inelastic. This estimate is based on national studies and includes eggs in all forms. However, it is possible that regional demand elasticities may be elastic and there is reason to suspect that demand for certain qualities is elastic.

Now what of secondary markets for eggs? Elasticities for secondary uses are not known. Frozen and dried eggs are often thought of as secondary uses at prices lower than shell egg prices. Industrial albumin would probably be a better example, for in a sense, frozen and dried eggs are not secondary products. Their use is primarily by food manufacturing industries as a substitute (in direct competition with the primary product) for shell eggs because the frozen and dried forms are cheaper — as well as more convenient.

The opportunity for supply allocation is even more limited for broilers. So far as demand elasticities for broilers are concerned, most studies estimate these as greater than one with estimates ranging from -1.2 to as high as -5.2; in other words, elastic and perhaps highly so. If those estimates are correct, quantity limitation programs can be expected to lower total revenue, not increase revenue. It is very difficult at the present time to think of any significant secondary outlets for broilers.

Marketing orders are not cure-alls. They are, however, tools that enable growers and shippers to work together to solve some marketing problems. Benefits depend on basic soundness of the order, industrywide support and persistent effort.

INDUSTRIAL ENGINEERING IN FACILITY DEVELOPMENT

Rex E. Childs
Agricultural Marketing Service
U.S. Department of Agriculture

There is a general misconception among those not familiar with industrial engineering that it is synonymous with, or limited to, time and motion study. Industrial engineering is a science, whereas, motion and time study is one of its many tools or techniques. It is concerned with and seeks to solve problems such as: Plant location, design of facilities, equipment layout, labor utilization, work method analysis and improvement, ownership and operating cost, and ultimately, the proper coordination of all plant activities so as to provide for the lowest possible overall production unit cost.

Let us consider some of the problem areas and discuss what we attempt to achieve through our project work.

Methods and Equipment Analysis

Our main objective in methods and equipment analysis is to make provisions for better labor utilization. Better labor utilization means increased worker productivity — getting more units of quality work per operator per unit of time. I stress quality work since productivity does not actually increase if quality of workmanship decreases proportionately as units per hour increase.

How can we increase worker productivity? (1) Make each individual work harder, or (2) employ the efforts of each employee more effectively. I believe it is obvious to everyone that the latter method is the proper approach to better labor utilization.

How Can We Get People To Work More Effectively

1. Reduce the time required per work cycle so that the worker can perform more units of work without exerting additional effort.

Operator time is reduced by developing improved methods and techniques that allow the task to be performed by less or shorter movements, better equipment, and better arrangement of work station layout. Small savings in time and energy at each work station accumulate into significant amounts very rapidly where operation cycles are short and of high frequency. The elimination of, or shortening of, a work element, no matter how small, will result in saving time and energy.

The day when it was possible to bring about vast savings in labor for the average plant is a thing of the past. We must now hunt down small seemingly insignificant waste in time and materials, which add up to sizable overall savings.

2. Another way to conserve time and energy and thus lower costs, is to have proper layout and work station arrangement. Effective arrangement must provide for the exact positioning of the product (such as a poultry carcass) in the same manner for each work cycle. All the auxiliary equipment must be arranged to provide for uniform hand movement for each work cycle. Lighting must be adequate and properly positioned to maintain accuracy and reduce work fatigue.

Crew Balance.—To effect savings in labor, each operation must be evaluated and timed to determine the man-power requirements per unit of production. This is accomplished by motion and time study, using a stop watch if the work cycle is long enough to observe and record manually or by micro-motion study using a motion picture camera for short, rapid and highly repetitive work cycles.

Once these man-power requirements are established, they can be used as tools in setting up production line rates for best overall economy. This is called crew balance. The idea is to set production rates at levels where the greatest overall labor utilization takes place.

The best crew balance can be calculated for a given production level by adding all individual operation man-hour requirements, based on work standards established by time study, and comparing the total man-hour requirements, with the actual people employed. The difference in the two figures is the man-hours not utilized or nonproductive time.

The most economical line speeds for a range of production levels can be determined so that when production is to be increased or decreased, the proper level and crew size can be employed to give the lower unit cost. Sometimes, better crew balance and lower unit costs are achieved by adding personnel.

Facility Layout

Another of the principal objectives of our studies is to search out and develop effective layouts that provide adequate space for material movement, storage, operation personnel, service personnel, and equipment.

To have an efficient layout there must be provisions for smooth product flow through the plant with a minimum of crisscrossing, turning, or backtracking; all unnecessary material handling must be eliminated; materials must be moved minimum distances; materials handling must be mechanized wherever possible; and all space must be effectively utilized (including overhead space). The layout must provide some degree of flexibility for easy, inexpensive rearrangement and expansion.

Design the Process — Then the Building

For best results, the process must be scientifically designed and laid out, and the building structure erected to house the process. This is a basic established fact, but frequently the opposite takes place; the process design is altered to fit the building.

How many plant managers can you name that claim their building houses their processes properly? I know of none. There are a number of reasons that cause improper housing of a process.

The main reason, we have observed, is the difficulty in estimating future expansion needs. A typical situation generally follows this pattern:

A process is designed and laid out for present requirements, with additional space added to accommodate future expansion. However, before the expansion is made:

(1) Improved or new equipment becomes available

(2) Processing techniques change

(3) Economic conditions cause a different size or type of expansion program.

Still the firm tries to fit the new process into existing building space when the expansion program gets underway.

The results are obvious — congestion, confusion, inefficiency, and many other allied ailments.

Would a more practical solution be to design the original process and a building sufficient to house it. In doing so, provide for easy expansion of the building by leaving one side and possibly one end free of permanent type installations such as freezers and boiler rooms. Then, when expansion is required, design the expanded process for efficient operation and extend the building to house it.

This approach in planning a building program might cost more initially, but the increased efficiency of the process should offset the extra cost in a short time. Certainly, during these trying times, the industry can ill afford processes jammed into buildings having constricted areas that increase costs of processing and maintenance day after day.

All I have been talking about can be summed up in one word — orderliness. An operation performed in an inefficient manner is not functioning properly. A layout that allows processing bottlenecks, or interferes with the free movement of materials or personnel does not have everything in the right place.

Order is a condition of the mind. A plant, a house, or an office reflects, to a great degree, the knowledge and mental attitude of the person in charge. Efficiency goes hand-in-hand with cleanliness. An efficient plant is easy to keep clean. Conversely, an inefficient plant is generally more difficult, and therefore, costly to keep clean.

In summary, the main objectives and reasoning behind the industrial engineer's facility design planning are:

1. Develop the process design first, then design the building to house it, regardless of whether a plant expansion or a new structure is involved.

2. Move product and materials through the plant over the most direct route and maximize mechanized handling.

3. Lower labor costs through conservation of time and energy by eliminating unnecessary motions, developing smooth work patterns, and proper arrangement of individual work stations.

4. Maintain the best crew balance possible by operating at production levels that utilize the greatest percentage of available manpower.

PROCEDURES USED IN PROBLEM ANALYSIS AND DEVELOPMENT OF RECOMMENDATIONS

Kenneth H. Brasfield
Agricultural Marketing Service
U.S. Department of Agriculture

Poultry and egg marketing today is far advanced over what it was a few years ago. Perhaps the greatest advances have been made in improving quality and reducing marketing costs. But even with the many developments of recent years, the industry realizes that it is far behind in the application of scientific knowledge, techniques, and research available to it.

Under today's stimulation of keen competition, the poultry industry has intensified its efforts to further improve methods and reduce the costs of its products. It has begun to recognize the advantages of using certain scientific approaches to solving cost problems. One of these is industrial engineering. Other industries, especially the manufacturing industries, have found for many years that industrial engineering is invaluable as a means of finding solutions to production problems. In poultry and egg processing plants, industrial engineering has proven to be just as valuable. It has also become an integral part of research to develop new and improved methods and facilities.

What is industrial engineering and how does it fit into processing poultry and eggs? My definition is that industrial engineering is the scientific approach to finding the optimum combination of men, machines, and facilities to bring about the most economical performance in producing a given volume and quality of product. Operation analysis, stopwatch time studies, micro-motion time studies, work station layout, product flow study, and materials-handling analysis are some of the procedures used by the industrial engineer to analyze plant operations. Production problems are defined and recommendations for improvement are made based on one or more of these areas of study. The end result is cost reduction.

As a service to poultry and egg marketing, the Agricultural Marketing Service has a program designed to help processors and handlers find ways to reduce their costs. This is a program in which Department representatives work in plants studying procedure, operation, and method efficiency. Under this program assistance is given in developing efficient plant designs and layouts for individuals and groups who plan the construction of new facilities. Usually, marketing specialists and industrial engineers work together as teams in conducting this work. This has been very successful.

In addition to in-plant studies and the planning of new facilities, the Marketing Facilities Planning Staff will work with planners and review their ideas for the layout of proposed processing plants. This is done for the purpose of offering suggestions for improvement to increase the efficiency of the operation.

To illustrate one procedure used in layout analysis I would like to demonstrate the fundamentals of "process flow analysis." This is a procedure that we have all used at one time or another. We may not recognize it by name, but it is certainly an effective means of operations analysis and often is used by the industrial engineer as a first step in his approach to a thorough study of plant operations. Process flow analysis is simply looking at a plant or a plant layout to find out: Where do materials come from? Why? Where do they go? Why?

Studying process flow will oftentimes define many of the production problems. Developing a good process flow will solve many production problems. As an example, you look at a plant layout and visualize the product entering the receiving door, it crosses to the far side of the room where the first operation is performed, it returns to a point where the second operation is done, and then travels back across the room to the third and final operation near the shipping door. The operations are being performed in a sanitary manner, but not efficiently. The transport distances are too great. This extra handling is nonproductive work in that no processing operations are being done. This plant could be improved by arranging the first operation near the receiving door, the second a short distance away and in line with the third and final operation near the shipping door. This improved procedure reduces processing costs because each time an egg or chicken is picked up or moved, it costs money. This is a very elementary example but it does illustrate an important method that is used to analyze plant layout.

The Marketing Facilities Planning Staff participated in 31 studies of poultry and egg marketing facilities last year. Most of these studies were made jointly with State departments of agriculture, and all were requested by local industry. Studies are carried on in many States, 14 last year, but assistance is available to industry in all States.

PROCEDURES USED IN PROBLEM ANALYSIS AND DEVELOPMENT OF RECOMMENDATIONS

Charles B. Elks
North Carolina Department of Agriculture

In North Carolina, we are proud of the progress that has been made in our poultry industry, but we realize that we have a long road ahead of us in improving both poultry and egg processing plants. The North Carolina Legislature recently passed a law requiring poultry inspection, starting July 1962. There are approximately 65 poultry plants in the State with 33 of these under Federal inspection. Most of these plants will undergo some type of renovation which will require some assistance in planning.

A good example of the type of work we perform is a study on which Ken Brasfield and Tom Todd of the U.S. Department of Agriculture, and I worked together in North Carolina. The first step was to discuss the overall plant operation with the manager.

After the conference with the manager, we decided to study the overall plant operation to find the areas which offered the best potential for improvement. After our preliminary analysis was made, we discussed the areas which we felt could best be improved and decided to concentrate our efforts on the live bird dock, the giblet area, and the packing area.

At this point, let me emphasize that one should never recommend a change in an operation unless he has good reasons for recommending it. Some of the reasons for changing an operation should be: (1) Improvement in the quality of the product, (2) decrease labor requirements, (3) make the job easier for the employee, (4) improve the flow of the product, and (5) improve sanitation.

At the live bird dock the filled coops were removed from the truck and placed on the roller conveyor on the upper side of the truck and moved to where the birds were hung. The empty coops were then pushed on a power conveyor and carried back up grade to the truck for reloading. This arrangement created some problems. The workers did not have adequate work space for truck unloading operations. Work areas were congested and did not permit freedom of movement. The location of conveyors with respect to the trucks required that filled coops be handled excessive distances. The back-in type of truck well caused double handling of about 20 coops out of each truckload of 160 and double maneuvering of each truck. This extra handling was necessary to move an empty truck out and to move a loaded one into position. Congestion on the platform was further increased by this buffer quantity of coops since they had to be stacked two abreast on the conveyor or on the platform. Following positioning of the loaded truck, the empty truck was again backed into position for loading the remainder of the empty coops. Several stray birds were run over by each truck as it was maneuvered into and out of the back-in type dock.

We recommended filling in the truck well and pouring a concrete floor which enlarged the unloading platform.

By using this method the trucks can move from the ventilated shed to the scales for weighing. Following the weighing, the trucks continue in the same direction around the plant to the new drive-through type unloading dock. The power conveyor was moved adjacent to the blood tunnel and was elevated upward to a point where it connects to a gravity roller conveyor which is high enough to permit employees to pass under for access to and from the receiving platform. The gravity roller conveyor begins a decline toward the truck and on to the line where the chickens are hung.

With this arrangement, unloading of full coops can begin at the front of the truck. The full coops are placed on the gravity conveyor where they flow down grade to the line. The birds are hung and the empty coops go up the power conveyor until they reach the gravity roller conveyor where they are returned to the truck for reloading. A dead plate may be used on the roller conveyor, if necessary, to keep the empty coops from passing by the truck. Approximately 15 extra or surplus coops are necessary in this type arrangement. The last 15 full coops to be removed from the truck will be the first coops to be loaded onto the following truck. This will permit complete loading of each truck with empty coops without a delay or double maneuvering.

The advantages of this new arrangement are:

1. Increased platform area will provide adequate space for workers to perform their duties.
2. Repositioning the coop conveyor adjacent to the trucks will reduce the distance that full coops must be moved.
3. The drive-through type dock eliminates the delay between truck unloadings and results in a reduction in the number of full coops that are needed as a buffer.

This reduction in buffer coops together with adequate conveyor length for 10 or 15 full coops, eliminates double handling of coops. Another advantage is that trucks are unloaded and reloaded at one position thus eliminating double maneuvering.

4. This arrangement should reduce the number of chickens lost due to being run over since the handling area can be fenced easier and thus make it easier to catch the stray chickens.

5. Under the old method, 32 to 40 man-hours per day were required to maneuver trucks, unload and reload coops, and catch stray chickens. It is felt that the new arrangement will reduce this labor requirement to 24 to 32 man-hours per day.

In the giblet operation, hearts and livers were not processed on the line. They were removed from the birds on the line by 4 people, dropped in a flume and carried to a separate station where the hearts and livers were processed by 5 people. From this station the hearts and livers were flumed into a spray washer and deposited at one of 8 giblet wrapping stations along the wrapping table. It was the responsibility of the worker at this wrapping station to supply giblets to the four wrappers on the opposite side of the table and to the 3 wrappers working alongside her. Giblets were pushed down the table so that they would be accessible to each wrapper.

Gizzards were handled similarly to hearts and livers. However, they were split and washed on the line by the 8 workers who removed them from the birds. Split gizzards were placed in flumes for transport to the gizzard skinning station. Three to four workers obtained the gizzards from a trough positioned at waist level, placed the gizzards on the peeling machine, and deposited peeled gizzards into a flume for transport to a rotary washer. After washing, the gizzards were deposited onto the wrapping table and pushed down the table with the hearts and livers.

Necks were removed from the birds at the end of the wrapping table and dropped onto the pile of giblets. Wrapping consisted of obtaining a neck, a heart, a liver, and a gizzard from the pile in the center of the table, and wrapping them atop a stack of giblet wrapping paper positioned in front of each operator. The operators stuffed the wrapped giblets into the birds as they were conveyed down the center of the table at eye level.

The problems with this arrangement were:

1. Hearts and livers were being handled twice by 9 people when 6 people could do the job.
2. Giblet wrappers were delayed while searching for the correct number and type of giblets. Eight people were performing this task where 6 people could perform the same task by having an orderly arrangement of the giblets.
3. A check of the wrapped giblets of the finished product indicated an inaccurate number of giblets in many of the wraps.

The group proposed to improve the giblet operation by recommending that hearts and livers be removed from the birds and processed on the line at the 6 work stations. Separate flumes would be used to transport hearts and livers to the wrapping table. Both would go through the washer before reaching the wrapping table. The gizzards are processed similarly to the old arrangement. Splitting and washing will be done on the line and peeling will be done at the peeling station where they are flumed to the washer and wrapping table.

In the new arrangement we proposed the use of an endless belt and that the different types of giblets be flumed to a certain position on the belt. The belt carries the giblets to 6 workers who wrap and stuff them. The necks are removed and dropped at any position on the belt. By keeping the giblets separated on the wrapping table belt, the wrappers can easily obtain the correct type and quantity of giblets without searching. Wrapping stations are staggered on each side of the table to prevent interference between wrappers when obtaining giblets.

Advantages of the new arrangement are:

1. Hearts and livers can be processed by 6 people instead of 9.
2. The number of workers wrapping and stuffing giblets is reduced from 8 to 6.
3. The giblet wraps should be more uniform with the correct number of giblets in each wrap.

In the packing area a box chute extended from the second floor and a roller conveyor carried the boxes after they were packed to the weighing, icing, and closing stations. To obtain the box two workers had to make a high reach to the box chute. The box was placed on a movable packing table which operates on a track between the roller conveyor and packing bins. After the birds were packed they were transported to the weighing station on the roller conveyor. Another worker,who packed the "Grade B" chickens, obtained his boxes a few at the time and manually carried them to the area where the "B Grades" are packed. He placed the box on the short roller conveyor and packed the "B Grades" out of chill tanks. The box was then moved to the scales where it was weighed after which he added the ice from a chill tank. The box was then closed and stacked about 5 high on a two-wheel hand truck which was used to transport them to the cooler.

The problems with this arrangement were:

1. Workers had to reach too high for empty boxes.
2. Boxes for undergrades had to be manually transported from the chute to the undergrade packing area.
3. Weighing, icing, closing, and stacking boxes of undergrades was performed by the undergrade packer although workers performing these same operations on the "A Grade" line were utilized less than 100 percent.

The proposed new arrangement relocated the undergrade packing area which was adjacent to the wall. The box chute has been lowered to a point where the "Grade A" packers can easily reach them. An addition has been made to the box chute making a 90^{0} turn in the direction of the sizer. An extra piece of roller conveyor has been joined to the old conveyor in a direct line with the weigh station. This permits the establishment of the new location for the undergrade packing station. The worker packing undergrades can now obtain boxes as needed directly from the box chute, place them on the conveyor, pack the undergrades, and transport the packed boxes on the roller conveyor to the weighing station.

Advantages of the new arrangement are:

1. Reduction in labor costs of $3,150 per year.

2. Less floor space needed because of elimination of chill tanks needed for ice, and space for duplicate weighing, icing, and closing facilities.

3. A centralized packing area is easier to supply with boxes.

The results of studying these three areas are as follows:

1. Improved employee working conditions by making the job easier.

2. Improved the uniformity of giblet wrap.

3. Reduced floor space requirements.

4. Reduced annual labor cost by approximately $18,000.

We feel that it is always better to study a problem thoroughly before making recommendations. We do not make recommendations unless we definitely have good reasons for doing so and at the same time have something better to offer. I feel that our objective should be to offer assistance in a way that a top quality product can be produced at the lowest possible cost.

SPECIAL TOPICS

ORGANIZING A PROGRAM TO INFORM LANDOWNERS AND FARMERS OF THE PRICES OF FOREST PRODUCTS

James R. Kendall
Ohio Crop Reporting Service

Organizing a project logically falls into three interrelated steps. Interest must be stimulated and an objective developed. A way must be found to finance the program, and finally the mechanics of data collection and publication must be worked out.

Timber price reporting on a quarterly basis in Ohio started a little over a year ago, with the first report released in September 1960. The Central States Forest Experiment Station had been working in this field for several years and had gained valuable experience both in questionnaire content suitable for Ohio and in actually collecting price information.

About 4 years ago a group known as the Timber Marketing Conference was formed. This group included representatives of State and Federal agencies, farm organizations, and some commercial wood-using industries. Our primary objective is to give factual information to aid all interested parties in measuring the true market value of the product. The price report becomes a common interest and in effect serves more than one master.

Timber price reporting in Ohio is a part of an Agricultural Marketing Act basic data project with State funds furnished by the State Department of Agriculture. With general agreement on the need and objective of timber price reporting and a means of financing the project, the next step was to work out the mechanics of data collection and publication.

A quarterly report appeared to best fill the need, but no particular month seemed sacred in timber movement. Since we have several quarterly surveys and releases in other phases of our work which fall in January, April, July, and October, this project was planned for releases in March, June, September, and December relating to prices in February, May, August, and November.

One of the key factors in the success of this program has been the excellent cooperation of the Forestry Division of the State Natural Resource Department. Their farm foresters make the price enumeration each quarter. They understand the questions, and as a matter of fact, had an important part in developing them. They are quick to spot discrepancies in reports through misunderstanding of the respondents. They are also able to answer questions or give advice on other phases of forestry that builds up rapport with the respondent.

Our sample provides about 200 reports from a total universe of approximately 700. We used a list of buyers publised by the Central States Forest Experiment Station in 1957 for drawing the original sample. A new directory of timber buyers was publised in 1961, which we used for realining the original sample.

Of the approximately 700 buyers of timber and timber products in the directory about 550 were sawmill operators, about 50 purchased commercial veneer, 11 purchased cooperage timber, and relatively small number bought basket veneer, pulp, charcoal wood, and wood for other miscellaneous uses. The sawmill operators were sampled at a rate of approximately 1 out of 8 but all buyers for other uses were included in the sample to obtain a sufficient number of reports to assure a small sampling variation. The sawmills were stratified into large and small buyer groups, with a further restriction that each forestry district would have at least 2 large buyers and 1 or 2 small buyers depending on the number of buyers in the district and the value of timber sold in each area. Alternate names were drawn to substitute for those no longer in business or refusals to cooperate.

The Timber Marketing Conference proved an invaluable asset in developing the releases and questionnaires. Releases and questionnaires from other States were studied to establish at least some uniformity between States. It should be pointed out that our foremost objective in this program is to prepare the most usable price report for Ohio. We are willing to sacrifice uniformity on any point not consistent with this aim.

Average prices have been subject to much criticism in reporting timber prices. Certainly distance from market, accessibility of the area for harvesting equipment and hauling out harvested timber, and use to be made of the timber may have more effect under certain combinations of these conditions, than the actual quality of the timber. In spite of the difficulties, we still use the average price to give a comparison of change with the previous quarter. Admittedly a change in the average may more nearly reflect a variation in location of purchases or a shift in uses rather than a change in price of similar timber, but this is also of some value in economic analysis. To improve the usefulness of the report and help meet the criticisms of average prices for timber products, we publish the range of the reported prices as well as the average price.

Our published prices can be divided into four main categories of stumpage, pulp and charcoal wood, sawlogs for lumber and container veneer, and face and commercial veneer logs. Prices are reported on a delivered basis except, of course, stumpage.

The average and range of stumpage prices are reported by use and species or groups of species for three areas of the State. The uses in this category are sawtimber, veneer timber, handle timber, and cooperage. Early releases quoted prices for an eastern and a western area, which roughly separates the flat land in central and western Ohio from the rougher terrain in the east. The areas were determined by using combinations of the District Forestry regions of the Department of Natural Resources. Since the District Foresters enumerate their regions, actually it is a combination of enumeration districts. Study of the enumerated data revealed that stumpage prices in the southern counties of the eastern area were significantly different from those in the northern counties. Some of the price difference is a quality and location differential, but a part of it seems likely to be due to prevailing market practices and lack of awareness of the value of the product on the seller's part. By reporting prices for three areas, attention is directed to the low prices in southeastern counties comprising roughly one fourth of the State. Our forestry educational workers are quite hopeful that this will bring about some adjustment in this area now that factual data is available for general use. Of course, the part of the difference due to quality, location and accessability are true economic differences and should remain. For sawtimber stumpage prices, we include walnut, cherry, white oak, hard maple and yellow pine. Ash, red oak, soft maple and yellow poplar are grouped together as are elm, cottonwood, beech, sycamore and hickory.

The average and range prices for pulpwood, charcoal, and ferro alloy wood are reported for both softwoods and hardwoods for peeled, unpeeled, and slat basis. However, nearly all prices are reported on an unpeeled basis.

Average and price ranges are reported by grades for sawlogs, for lumber and container veneer, for selected species and specie groups. The grades used were developed by the Ohio Forestry Association and specification depends upon the diameter of the log and location of defects.

The final section of the report is for face and commercial veneer logs, with prices reported by size for walnut and for all other species for prime and select logs. Veneer log grades are generally better established in the industry, and have caused no particular problem in reporting.

The most effective measure of the value and acceptance of any report is the number of requests for the information and amount or lack of adverse criticism. This has proven to be one of our most popular reports. The original mailing list included approximately 500 names, but has grown rapidly and consistently and now totals nearly 1,900. The reports have now been issued for over a year, but we still have 5 or 6 requests for additions to the mailing list nearly every week. In addition to our regular mailing list, bulk supplies are distributed to the State Markets Division and Forestry Division, the Extension Forester and Soil Conservation Committee.

While we realize that the report has some shortcomings, we feel that we are showing good progress in our primary objective of providing factual information on the market value of timber. As workers in agriculture, we do not believe we can or would want to be disassociated with the field of conservation and use of natural resources. This is a large field and one in which no single agency is likely to solve all the problem. It is a source of satisfaction to feel that in accomplishing our primary objective in the marketing field, we are also able to make some contribution in stimulating interest in forest conservation and woodlot management.

THE WEST VIRGINIA FOREST INFORMATION REPORT

Alan R. Miller
West Virginia Crop Reporting Service

The West Virginia Forest Products Market Information Report was initiated in January 1960, with the first price inquiry relating to the last quarter of 1959. The present price information program is a part of a four-point program developed in late 1959 by the West Virginia Forest Products Marketing Committee, comprised of all groups and individuals interested in the welfare of the State's timber resources. These four activities are: (1) Forest Products Market Information Report, (2) Forest Products News Letter, (3) Sawmill Operators Association, and (4) A Logging Service Program on a Pilot Basis.

West Virginia ranks seventh nationally in the volume of standing hardwood sawtimber, and forests occupy 64 percent of the State's land area — about 10 million acres. Practically all of this acreage is classified as commercial and about one-half is considered sawtimber stands. The ownership pattern may help to explain the present condition of the forests, which is well below its potential: heavy cutting in past years, fires, and insect and disease damage have held the volume of good sawtimber well below the 5,000 board feet per acre it should yield. Ten percent of the forest area is in public ownership and 2 to 3 percent is held by forest industries with the balance in private ownership. More than 40 percent of the privately-owned acreage is in holdings of less than 100 acres, and almost two-thirds is held by some 132,000 owners in tracts under 500 acres in size. All counties of the State have forest land with the proportion ranging from 18 percent in Jefferson County to 90 percent in Boone County. About 90 percent of the forest area is hardwood species with oaks comprising 50 percent of total; yellow poplar 21 percent; sugar maple, beech, and yellow birch 15 percent; and the other 14 percent in other hardwoods and softwoods.

At one time the deep coal mines of West Virginia were the largest consumer of forest products. At the time when their production was around 150 million tons annually, they needed an estimated 5 board feet of round timber and lumber for props, headers, wedges, and ties, for every ton of coal mined, or an annual total of some 750 million board feet. But today with deep-mine coal production down to around 110 million tons, and with metal replacing part of the wood needed in deep mines, the annual consumption of wood in mining may be no more than 250 million board feet. Sawmills are now the largest users of timber, although lumber production also is declining. In 1952, sawlogs made up 86 percent of the total sawtimber cut, and 71 percent of the cut of growing stock. Other products from the forest included pulpwood, fuelwood, veneer and cooperage bolts, posts, piling, charcoal wood, ties, and turnery stock. The 1952 cut was concentrated on relatively few forest acres. Oak trees supplied nearly half the timber products removed, followed by yellow poplar and sugar maple.

Without getting further into the economics of timber resources and the ultimate users of present timber, we can say that forest products are now an important source of income to West Virginia farmers and woodlot owners and have unlimited possibilities with proper management.

A study conducted in 1952, as a part of the Northeast Regional Forest Products Marketing Project and based on a statistically designed area sample, showed that buyers established the basis for payment on 79 percent of all sales reported in the 1947-51 period, and this was still the situation prevailing in late 1959. In addition to accepting the price offer of a single buyer, the majority of the sellers also assented to buyers' requirements with respect to various forms of measurement employed in establishing a basis for payment. Also, the sellers' pre-sale knowledge of markets and marketing assistance available was very limited.

Getting down to the Forest Products Price Inquiry and the resulting Market Information Report, it was determined that buyers, first handlers, of forest products in West Virginia would be surveyed to obtain the desired price and volume information. The majority of first handlers are sawmill operators with the balance comprising handlers of mine timbers, cooperage, charcoal, pulpwood mills, and a few coal companies. A directory of sawmills had been compiled by the State Conservation Commission and the Extension Forester and was probably complete at 825 mills. This directory placed the mills in size groups according to annual volume handled with 28 percent producing more than 500 thousand board feet per year.

In designing the survey questionnaire we were fortunate in having available the questionnaires used by several of the States already in the forest products price reporting business. We did however design ours to utilize peg-strip tabulation, emphasizing sawlogs on stumpage and f.o.b. mill basis and the major species grown; the reverse side is devoted to mine timber products and speciality products. We use the same questionnaire for each quarterly survey where the respondent is asked to report volume purchased and average prices paid for timber products bought during the quarter. For sawlogs on both delivered and stumpage basis, the weighted average price computed and the range of prices has been representative. Some of the data on speciality items fluctuate considerably due to sample variance and will need additional survey emphasis. No expansion of survey data has been made or is any planned since the weighted average price — extension of volume and average price — and the range of sawlog prices is sufficient for publication. Where less than three reports are involved, average prices are not publised and those averages which are not within reasonable limits are not published.

Zones used for analytical and release purposes were developed by the Forest Products Marketing Committee based on the kinds of timber in the areas and the kind of lumbering operations. We have not attempted as yet to collect sawlog prices by grade or to adjust the volume reported for the type of measurement used; the latter is asked on the questionnaire but cannot best be utilized until the size of logs is known. We have not attempted to obtain prices by grades for sawlogs; about 57 percent of sawlogs are sold on the stump, usually by the boundry, and another 28 percent at roadside. The use of sawlog grades has not as yet become extensive enough in West Virginia to warrant the collection and dissemination of price data on that basis. This is one of the fields in which the Forest Products Marketing Committee hopes to make some progress.

Who uses the report and of what value has it been in the marketing of forest products in West Virgnia? The report has apparently been of real value to bankers who are using it as the basis for making loans to woodlot owners. The report is disseminated to all sawmill operators, a special request list, to county foresters, county agents, soil conservation workers, vocational educational workers, and agricultural marketing personnel to name the broad categories. This list numbers about 1,500. Extensive publicity has been given the report through feature articles in newspapers and through the Market Bulletin, a publication of the West Virginia Department of Agriculture which is sent to 67,000 persons. Some trade magazines have also used some of the data.

THE ROLE THAT SOIL CONSERVATION DISTRICTS CAN PLAY IN FOREST PRODUCTS MARKETING

Ross H. Mellinger
Soil Conservation Service
U.S. Department of Agriculture

In less than 40 years, our total needs for wood products in the Unted States will be double our 1952 consumption. The needed wood products will have to come from about the same acreage of land that is now in trees — perhaps less. This means that a much better job of woodland conservation will need to be done to reach a higher level of production and sustain it. Public lands and industrial ownerships alone cannot sustain the increased future demand even under the most intensive management. The key to an adequate future supply of wood is in the hands of the small (under 5,000 acres) private woodland owner. These small woodland owners control 54 percent of the commercial forest land in the country. Much of it is on good timber-growing soil and accessible for management and harvest. Of this type of woodland 33 percent is located on the Nation's farms.

In the past, the owners of these small woodland tracts have not done a very good job in managing their tree land or marketing the forest products from it. They have realized far less than the potential of these lands in terms of either wood or dollars. There is ample reason to believe that given the incentive and "know how," the owners of these woodlands can and will do a good job of growing wood as a crop, just as farmers have succeeded in producing an abundance of agricultural products. This can be brought about by a combination of advanced technology, more local markets for wood, and better marketing practices.

Marketing begins with the land. Fitting the crop to the land and getting efficient, sustained production of high quality products is essential to profitable operation. Wood crops are no different from other crops in this respect. An intimate knowledge of the land — its potential, and its limitations — is a basic need. Therefore, we might say that one of the basic marketing helps furnished by a soil conservation district is a soil map of a producer's land with interpretations for land capability and various alternative uses, including woodland.

These soil maps are made by the Soil Conservation Service as part of the National Cooperative Soil Survey. They are furnished every district cooperator to help him reach intelligent decisions about the use and treatment of his land. With respect to woodland, the soil maps and interpretations answer such questions as:

1. What is the most intensive use which should be made of this land? (Land capability)

2. If I use this land to grow a wood crop what are the best adapted, marketable species?

3. What is the expected yield for these species under good management?

4. How much can I afford to spend to get satisfactory yields from this land?

5. What are some of the soil-related things that will affect the management and harvesting of the crop? Erosion hazard? Plant competition? Equipment limitations? Insect and disease hazard? Windthrow hazard?

6. If I plant trees on this land, what species should be used? How far apart to space trees? How to prepare the planting site? How to keep trees growing well after planting?

7. Is this land suitable for growing Christmass trees?

All of this and much more is part of the advanced technology involved in growing and marketing our future wood crop. There are numerous examples in soil conservation districts throughout the country that this information is needed, appreciated, and put to good use by woodland owners.

More and more people are acquiring woodland for recreation and related uses. To help safeguard future timber supplies it is necessary that these owners understand that timber can still be grown and harvested while using the land for other purposes. Soil maps are useful in explaining this multiple use concept.

Of more immediate concern is the need for improving marketing practices. Studies in West Virginia have shown that in recent years less than 2 percent of the total gross farm income comes from the woodland acreage which represents about 45 percent of the acreage of the average farm.

In the fall of 1959, a group of interested people tackled the problem of getting a better marketing job done in West Virginia as one way to step up income from tree growing. Early in 1960, a program was adopted. Briefly, it consisted of these four phases:

1. Quarterly distribution of prices being paid for stumpage, logs, mine timbers, and other common forest products.

2. Bimonthly distribution of a Forest Products newsletter publicizing tree products for sale, equipment needed or for sale, technical services, and other information of interest to woodland owners, sawmillers, and buyers of tree products.

3. Formation of an association of small sawmill operators devoting its energies to developing a stronger, more efficient, and better coordinated sawmill industry within the State.

4. Development of a logging and selling service for landowners who are unable or unwilling to do woods work themselves and who have had difficulty in interesting a buyer.

I want to discuss point 4 in some detail. This logging and selling service has been set up as a pilot operation in the Southern Soil Conservation District in West Virginia. It works like this:

Working through the District under the supervision of a "Pilot Logging Forester," cutting crews are hired, and other needed services such as hauling and skidding are contracted to harvest timber on small properties. Work is done mostly on small holdings which often do not catch the eye of the regular commercial operator.

The forester contacts the landowner. He looks over the timber to determine that forest management work is needed. He determines if the landowner can take care of the cutting and skidding of the marked timber himself. If the landowner is unable for any reason to conduct the operation, the forester explains the district crew set up. The forester signs up the landowner as district cooperator if he is not already signed up.

The forester contacts local millowners and finds out how much they will pay for the timber at the farm roadside or delivered to the mill.

The forester contacts the cutting crew and finds out how much it will cost per thousand to cut and skid timber to roadside. If the timber is to be delivered to the mill, he finds out the hauling cost per thousand. He then advises the landowner how much he can expect as stumpage for each thousand feet of timber cut. If the landowner agrees on the stumpage price, he signs an agreement for Soil Conservation District to cut his timber.

The forester marks and tallies all the trees to be removed or harvested. This information is computed and recorded on a cruise report form. The original is sent to the District Forester, second carbon to the Chairman of the District Board of Supervisors, third carbon retained by the forester.

The following agreements are then executed: Agreement of Board of Supervisors to pay landowners for cut timber, agreement between Board of Supervisors and cutting crew, and agreement of millowner to purchase cut timber.

The forester assists in keeping a record of the number of feet cut, skidded, and hauled and the price per million board feet for each operation.

The forester checks frequently to see that cutting is being done according to good forestry practices as listed in the contract.

The District Board of Supervisors invoices the millowner for all timber sold. After receiving payment for the timber, the Board pays the agreed price to the landowner after deducting for service charges, cull removal, and road construction.

To date, there have been two cooperators, one in Fayette and one in Mercer County, that have signed up for the program.

Although a great deal of work has been done in the two projects and neither has yet been completed, much valuable information has been gained by contacting the sawmills and many changes in procedure have been set up by working on the project.

The long-range effects of this phase of the marketing program can be assessed as follows:

1. By example, all woodland owners will be encouraged to do a better job of woodland management. Woodlands will be put in shape to produce more income at shorter intervals of time.

2. Demonstrate to mill owners and cutting crews that timber marked by a forester can be profitably harvested.

3. Establish a list of stable and reliable buyers and determine their needs as to species, volume, specifications, and seasonal demands.

4. Consolidate the timber from small tracts to make a sale more appealing.

5. Direct species and grades to the most profitable market.

6. Promote new uses and new ideas for the utilization of West Virginia trees.

7. Districts will be better able to determine the needs for specialized equipment for tree harvesting.

It is logical that soil conservation districts were called upon to contribute to the present marketing program in West Virginia. However, it is only fair to point out that the logging service phase of the program is not yet "off the ground," but the "ice breaker" job is imminent. A similar program has worked in Maine and is now shifting to a privately-operated logging service. This should be the aim in any district service program — to provide needed services to cooperators to do a conservation job until private enterprise can take over. High quality conservation work at reasonable cost is accomplished and future supplies of food, fiber, and wood is insured.

The missile age has ushered in new technologies and a speed-up in automation. People whose business it is to forecast the future for the guidance of industry predict many changes in forestry equipment and technology. In the next 15 years we will see completely new kinds of equipment, supplies, chemicals and techniques devoted to growing and harvesting wood crops. Some of these things are:

1. Timber "combines" that will cut, limb, and process whole trees into logs, bolts, or wood chips right in the woods.

2. Timber carriers which will literally float on jets of air over terrain and soil on which present day equipment would bog down.

3. Increased use of helicopters for fire fighting, direct seeding, and transporting of logs.

4. New electronic devices to expedite the selection, measuring, and harvesting of trees.

5. New chemicals and new ways to apply them for such things as fertilizers, insecticides, herbicides, repellents, fire suppressors and debarking compounds.

6. Closed circuit television, infrared detectors, and radar for timber protection.

7. Guided missiles, loaded with fire-retardant chemicals, zeroed in by the heat of the fire itself.

8. Propagation and planting of millions of pedigreed trees by direct seeding.

All this may seem a little "far out" — but is it? There may be real opportunities for districts to furnish some of these things to small woodland owners just as they are furnishing other kinds of equipment and services which are out of reach of an individual. Unless modern and up-to-date devices are used to harvest the wood crop economically, wood can very well become too expensive to use and can be crowded out of the marketplace.

FOREST SERVICE RESEARCH IN THE FIELD OF TIMBER PRICES AND MARKETING

T. A. McClay
Forest Service
U.S. Department of Agriculture

Research in the marketing of forest products includes studies of improved methods for providing price and market information; possible means of increasing the efficiency of harvesting, grading, selling and distributing forest products; development of expanded markets for timber species and materials in short supply; and surveys of consumption and prospective requirements for timber products. That part of our research most directly related to price reporting deals with timber prices, quality grading, and quantity measurement.

Timber Prices

How to compile and report more factual stumpage prices has been and still is a difficult question to answer. We have made a number of studies to determine the relationship between stumpage prices and certain forest stand and market characteristics. The purpose of such studies is to provide a basis for reporting more specific prices and for appraising individual timber tracts. One study recently conducted for private sales of pine sawtimber in South Carolina tested 23 possible price determinants. Of these the following were significant: average volume per marked tree; road distance to nearest sawmill or planing mill; number of bids received, and geographic location of sale tract. Using these factors in conjunction with a State average stumpage price allowed a sale value estimate within ± $4.60 per thousand board feet for an individual tract.

Another similar study analyzed National Forest pine sawtimber sales data in Mississippi, Louisiana, and Texas Factors significantly correlated with stumpage price received were: tree volume, total sales volume, cut per acre, ratio of hardwood to pine volume, wholesale market price for southern pine lumber, and number of bids received. Tree volume and number of bids, therefore, were the only factors found to be significant in both studies. The former is an indirect expression of quality and the latter of degree of competition.

Both of these studies dealt with a single species and a single product and were based on fairly complete transaction records. However, timber sales often involve more than one species and product and sufficient transaction records with reliable data for analysis are not readily available. It is unfortunate that accurate stumpage price information is so inadequate and difficult to report since a large majority of small timber owners sell stumpage rather than cut products at the mill. In view of the importance of stumpage value determination to timber sellers, how can an owner make such a determination for his particular tract? The most accurate method for obtaining an estimate of tract value is an appraisal of both costs and values involved. This requires extensive knowledge of many factors including end product, grade yields and selling prices, logging and manufacturing costs, and all the inventory techniques associated with estimating the quantity and quality of merchantable timber.

A more simple but less reliable method is to make a judgment estimate. It is somewhat similar to an appraisal except that the person doing it merely looks over the timber tract, gets a general idea of product quality and deducts an average harvesting cost from the going price for cut products to obtain estimated stumpage value.

A third method is to compare the timber tract with other tracts of similar timber sold in the same marketing area. If similar timber is selling for $20 per thousand board feet, it is reasonable to assume this price as an estimate of going market value. This method requires familiarity with current timber sale transactions in the area and an ability to distinguish essential differences among the various sales.

Most forest landowners today lack the skills needed to apply any of these methods and have several alternatives when ready to sell their timber. They can let the buyer set the price; this puts the seller in a very weak bargaining position. They may seek advice and partial assistance either free or at cost from industry or State foresters; this is helpful but there aren't enough such foresters to meet the need. They may hire an agent, such as a consulting forester, to represent their interests; this requires little or no effort by the owner but does involve a fee which he may not be able or willing to pay. Finally they can develop an interest in forestry and acquire sufficient knowledge to recognize timber products and merchantability standards. Such people would rely on market price reports for current stumpage prices on the products they are growing and thus be better able to negotiate a fair sale. Although specific stumpage prices are difficult to report, every effort should be made to do the best job possible now and to work toward greater accuracy in the future — for this is the price information forest landowners need.

In our economics research we often have great need for stumpage or log price trends of major forest products to make price comparisions among species and to forecast possible future prices. We have developed an annual price series for southern pine pulpwood in the Southeast since 1938, and compile office records of national forest sawtimber stumpage prices quarterly. However, there is little price information available on private timber sales, especially for localized areas, products, and species. This need would be met in large measure by accurate timber price reports issued regularly by the various States.

Quality Grades

At last year's workshop, Mr. Carpenter emphasized the importance of timber quality in price determination and outlined the research being done by our national log and tree grade project. Since then, we have completed development of southern pine log grades and the grade specifications have been approved as Forest Service Standard. Log grades for northern white pine in the East and ponderosa pine in the West are in the final stages of verification throughout the marketing range of each species and should be ready for general use next year.

Most timber buyers take quality into consideration when making purchases of either stumpage or cut products. As those of you who have tried to collect prices by quality grades know, however there is a decided lack of uniformity in the methods used by industry. In West Virginia, for example, which produces over 400 million board feet of lumber annually it was found that 9 out of 10 sawmills did not use written quality specifications when purchasing raw material. Therefore, although research can develop satisfactory grading systems, real improvement in reporting more specific prices will not be achieved until timber products are bought and sold within a marketing area by some generally recognized set of quality specifications.

Quantity Measurement

Quantity measurement, like quality, also suffers from a general lack of uniformity in methods used by timber buyers. However, there are a number of available log rules for estimating board foot volume, and the immediate problem in price reporting is primarily one of log rule standardization rather than research to develop new rules. Since the various log rules give materially different volume estimates, it is important that price reports specify the log rule used in stumpage and log price quotations. For example, a thousand board feet of sound sawlogs by the International 1/4" rule may be 830 board feet by the Scribner rule and only 670 board feet by the Doyle rule. If log rule is not specified, price per thousand board feet can be very misleading to the uninformed seller. Difficulties arise where more than one rule is used within a price reporting area. A practical solution in this case is for buyers to agree to adopt a common rule of measurement. However, tradition has established the use of particular log rules and habits developed over the years are not easily changed.

A recent development in the field of quantity determination has been the use of weight rather than volume for buying and selling sawlogs and pulpwood. Several of our studies have shown advantages of weight-scaling over traditional stick-scaling such as: much of the human error is eliminated, faster truck turn-around time is possible, there is a positive record of transaction on a printed scale ticket and prompt delivery of green wood to the mill is encouraged. Factors have been determined for converting weight into cords and board feet. However, variations were found to occur according to species, log size, mill type, and manufacturing practices. This means that individual mills probably should develop converting factors for their particular conditions. Although further refinements are needed before weight-scaling can be generally used, it does offer promise of a uniform quantity measure that can be readily identified at the mill. The confusion created by volume differences by the various log rules would be eliminated, sellers could make direct comparisons of prices offered, and prices could be collected and reported by a common unit of measure.

Marketing Practices

In many areas the marketing of forest products, when compared to other commodity markets, is largely unorganized and poorly coordinated. Therefore, we consider studies of marketing efficiency to be an important part of our research program. For example, we currently have a marketing project in the hill country of southeastern Ohio and eastern Kentucky — an area with an extensive forest resource and a sawmilling industry earmarked as one of instability and low net income. The reasons for instability and low net income are varied but are related to milling inefficiency, the product manufactured from the log, and marketing practices.

The objectives of this type of research are to develop more stability in the sawmill industry, to enhance the economy of areas dependent on timber industries, and to encourage forest land management. The first phase of the project is a survey to classify sawmills in the area by product class and to identify the more important problems affecting sawmill production and marketing efficiency. The next phase will include more intensive studies of problem areas on a pilot plant basis and a determination of optimum operational efficiency for sawmills under controlled conditions. The end result will be recommendations for improved marketing practices and production efficiency in the sawmilling industry. Such improvements would enhance the landowner's opportunity to sell his timber at a better price and create a more orderly market organization.

Market Development

A large part of our marketing research is aimed at developing new or expanded markets for species and qualities of timber that are relatively abundant but little used, including woods and plant residues. This has a direct relationship to the forest landowner by opening up broader markets for timber products he may find difficult or impossible to sell today.

An example of market development research is a project recently begun by our Northeastern Station at a newly-established center for timber marketing and related research in West Virginia. Included under the project will be studies in selected areas to obtain detailed timber resource data; to evaluate the feasibility of establishing new or expanded wood-using plants, lumber and log concentration yards, and forest landowner management and marketing organizations; and, should it prove feasible, to establish and operate a pilot concentration yard and utilization plant to demonstrate and make actual tests of improved marketing practices and production methods. As you can see, this represents a major undertaking and will probably set the pattern for similar marketing research programs in other undeveloped forest areas.

Demand and Supply

We have underway a number of continuing studies of current and potential wood consumption for various end uses. Our present program includes studies of wood use in residential construction; in the construction of elementary and secondary public schools; in the transportation and manufacturing industries; and by farm and other rural area people. The immediate objective is to determine the amount and kind of wood products consumed in these various sectors of our economy and to develop information on factors affecting substitution between wood and other materials.

Although our Forest Survey is not considered marketing research, I mention it because of the basic resource facts it provides on the supply side of the market. Periodic inventories are made in each State to determine the area, location, condition and ownership of forest lands; the volume, kind, and quality of timber on this land; rates of timber growth and natural losses; and timber cut from forest lands.

Development of sound forest policies and programs on the part of both public and private agencies requires an adequate knowledge of trends in both demands for and supplies of timber products. Research to appraise timber markets is essential to determine changes in consumption and prospective future demands for lumber, pulp and paper. and other timber products. Continuing inventories of timber resources and needed to know the amount and quality of timber supplies now and prospectively are available. Such information on timber inventories and markets provides a basis for judging the current forest situation in the nation and for developing sound Federal, State, and private forestry programs that will insure adequate raw-material supplies to meet the nation's expanding demands.

STATE DEPARTMENTS OF AGRICULTURE AND FARMER COOPERATIVES

Byron G. Allen
Assistant to the Secretary
U.S. Department of Agriculture

As a former State Commissioner of Agriculture, I have been interested in the relationship between State and public agencies and cooperatives and attempted to sponsor and assist farmers in their cooperative desires and endeavors in my State while in public office.

Shortly after I came to Washington as Assistant to the Secretary and in connection with the specific duty of working with the State departments of agriculture, I found the need for information concerning (1) their authority or commission to work with and assist farmers in their cooperative efforts, and (2) the types of activities resulting from this authority or commission.

Accordingly, I asked the General Counsel's Office to make a survey and analysis of the State laws pertaining to the services which each State department of agriculture is authorized or directed to perform specifically for farmer cooperatives. Under the direction of Raymond J. Mischler, Assistant to the Assistant General Counsel, such a survey was made by John F. Donoghue.

A form was prepared and sent to each of the 50 State commissioners or directors of agriculture, and to Puerto Rico and the Virgin Islands.

Five types of information in particular were sought:

1. The legal authority or directive to work specifically with farmer cooperatives.
2. The actual work being done by them with farmer cooperatives.
3. The media through which the State departments work with and for the cooperatives.
4. The amount of funds and personnel, if any, allocated to such work.
5. The general attitude of the State departments toward working specifically with farmer cooperatives.

To date 41 of the 52 schedules sent out have been returned or replies thereto received. Of the 41 replies, 22 state specific authority exists to work with farmers in their cooperative efforts.

The survey of State statutes made by Mr. Donoghue, OGC, shows that 26 of the 50 States, have authority to work with cooperatives and some have directives to do so. In a few States the authority is assigned to the Extension Service, State College of Agriculture, Secretary of State, State Board of Agriculture, or State Cooperative Council.

The authority in the States ranges from general encouragement of farmer cooperatives and the appointment of a cooperative director by a department official, to very broad powers as in the State of Minnesota where the statutes provide for:

1. Encouraging, promoting, and assisting in organization and management of cooperatives.

2. Appointing directors of cooperative marketing associations by the commissioner or any other public official or commission.

3. Supervising and controlling cooperatives organized under the Cooperative Marketing Act. The cooperatives are visited annually and their business examined to ascertain their financial condition.

4. Removal by the Governor (probably at the advice of the Commissioner) of any officer or director of any association and referring the winding up affairs of an association to the Attorney General under certain circumstances.

5. Formulating accounting systems, prescribing uniform accounting systems, and causing audits to be made.

6. Creating a department to collect statistics and information in reference to cooperatives among farmers and to disseminate this information among farmers.

Some State statutes are rather old and may need amending or rewriting. Of 19 statutes, 3 were enacted prior to the 1930's. Eleven of the 19 are fairly recent, having been enacted or amended since 1950. Amending or rewriting the cooperative statutes might well be a task which the State Councils of Cooperatives might undertake.

Services Rendered

The State departments may perform a long list of services, most of these available to all types of firms, non-cooperatives as well as cooperatives. Of 27 listed services the following 9 are given exclusively, specifically, and most frequently to farmer cooperatives. These services, by the 41 States reporting, in order of number of States offering them, are as follows: Legal assistance, 12 States; assistance in organizing, 10 States; pre-organizational surveys, 9 States; sponsoring new associations, 8 States; assistance with product quality, 8 States; special surveys or studies, 8 States; special problems, 8 States; tax problems, 7 States; merging, consolidating, federating, 7 States.

Frequency of Services

An attempt was made to determine not only the services done specifically and exclusively for farmer cooperatives, but also to learn which of these services are rendered regularly, which only occasionally, and which not at all.

The most prominent services rendered regularly and occasionally by a large number of the States are as follows:

Service	Regularly	Occasionally
	Number of States	
Establishment of grades and standards	18	3
Assistance with product quality	17	8

Service	Regularly	Occasionally
	Number of States	
Assistance in organizing	12	5
Managerial or consultant assistance	11	5
Educational assistance (to farmers)	11	7
Legal assistance	10	6
Public relations	9	8
Legislative assistance	6	12
Special surveys or studies	3	12
Special problems	5	11
Statistical compilations	5	11
Preorganization surveys	4	10
Liquidation	2	9
Brands, trademarks	3	9

A large number of State departments, among the 41 reporting, authorized to work with cooperatives do not perform certain services listed. These, by number of States, are: Financial assistance, 21 States; appointment of public director, 20 States; installing accounting systems, 20 States; preparation of annual or special reports, 19 States; supervision of operations, 18 States; merging, consolidating, federating, 18 States; auditing, 17 States; brands, trademarks, 16 States; liquidation, 16 States.

Five State departments (Minnesota, New York, North Carolina, Texas, and Wisconsin) have from one to seven full-time employees working with farmer cooperatives. Fifteen States have one to eight part-time personnel working with cooperatives. The number of man-years which the States have, full- and part-time, ranged from 1/12 to 8-1/2. Puerto Rico has 18 full-time and 10 part-time cooperative personnel.

Funds appropriated for work with cooperatives ranges from $3,600 to $30,000 in six States reporting. Florida is highest with $30,000. Minnesota, on a fee basis, used $25,000 in 1950 from service fees collected from the cooperatives served. Puerto Rico has an appropriation of $84,000 for work with cooperatives.

The State departments were asked to indicate the order or rank of emphasis they place in working with the several agencies in serving farmers in their cooperative efforts. The agencies given top place in descending order are: State Cooperative Councils, county agents, State Extension Service, State College or University, USDA Liaison Office, general farm organizations, Federal Extension Service, Farmer Cooperative Service, and 4-H Clubs.

Highest in overall emphasis, or those ranking first and second combined, are the State Extension Service, county agents, and State Cooperative Councils.

What limits the work the State departments are able to do for and with farmer cooperatives? The following is the number of times the several limiting factors were listed:

Lack of funds	25
Lack of personnel	22
Lack of authority	12
Opposition to cooperatives	2

The first two, lack of funds and personnel, are probably essentially the same since the lack of personnel, in most cases, may be attributed to lack of funds to employ personnel.

Missionary zeal found among cooperative members and leaders appears to be lacking in modern times. All cooperators and State agricultural department heads should be enlisted to help cooperatives move ahead and keep abreast with other forms of business organizations in the ever-changing economy. An important step in this direction needed in many States is the revision of State statutes which permit or require State departments of agriculture to work with and assist farmer cooperatives in an effective manner.

State cooperative councils should, and some do, keep in contact with State departments of agriculture — to point out the provisions of the State law and to enlist the commissioner or executive officers to assist in the work of the councils.

There is an excellent opportunity to strengthen the coordination of cooperative marketing organizations, the State departments of agriculture, Farmer Cooperative Service, U. S. Department of Agriculture, State cooperative councils, and other agencies in solving problems in the cooperative marketing field. The factors that make this possible:

1. Need exists to work on service activities designed to solve the problems in the marketing of agricultural products.

2. Most State departments of agriculture have strengthened their marketing service programs; many have divisions of marketing which include cooperative marketing sections.

3. Most commissioners, secretaries, and directors of agriculture understand and are interested in the development of cooperative marketing agencies.

4. The staff of organizations like the Farmer Cooperative Service, State Cooperative Councils, and other groups which have the experience and specialized skills can be utilized to assist State departments of agriculture in developing more effective marketing service programs with cooperatives.

WHAT STATE DEPARTMENTS OF AGRICULTURE CAN DO TO HELP COOPERATIVES MARKET AGRICULTURAL PRODUCTS

Erwyn Witte
Colorado Department of Agriculture

In Colorado we have approximately 200 co-ops of all kinds. Of these, 122 are organized under a law specifically designed for farmer cooperatives and administered by the Colorado Department of Agriculture under our Cooperative Marketing Act of 1923. Cooperatives organized under this law file annual reports on their business with our office. In 1960, 114 reporting co-ops showed a membership of 52,850 and did a total volume of business in excess of $104 million. Of this, $85 million was done by marketing co-ops and the balance by farm supply co-ops. Actual savings amounted to nearly $4 million, and this figure would have been at least doubled had we been able to reflect the higher returns received directly by the farmer for the sale of his crops.

The cooperative movement is gaining momentum in Colorado as more and more farmers become aware of the advantages available to them. In the past year and a half we have helped organize 7 new co-ops, so the figures I gave you a moment ago will be larger next year. We also have 2 new ones in the mill right now and will probably have more in the next few months.

Our work with cooperatives falls into 3 categories.

I. Assist new co-ops

A. Organization guidance

1. When we are approached by a group of co-op interested people we hold one or more initial meetings with them, explaining cooperative principles, what it can do for them, and some of its pitfalls.

2. At the same time we conduct a survey of their individual situation to determine if a cooperative organization is feasible. In this survey we use a 3-point rule of thumb.

    (a) Will a co-op make money for its members?

    (b) Will it save money for its members?

    (c) Will it provide a service which does not now exist?

   Unless it can answer affirmative to one of more of these questions, we stop right there.

3. The next step is the drawing up of an Organizational Agreement. This outlines briefly the goals, methods, and financial structure of the co-op. It is especially important if any particular amount of capital investment is going to be required as it provides the structure needed while the membership and fund raising drive is going on.

B. Articles and bylaws

When sufficient capital and membership are obtained we assist in the adoption and filing of Articles of Incorporation. In this respect, we actually perform the mechanics of the operation for the members. We follow the same procedure for the bylaws, going over the five principle features and making sure that all members know and understand them.

1. Membership — spells out in detail the requirements and obligations of each co-op member.

2. Directors — defines who will run the organization, their election and duties.

3. Patronage — states positively that all margins will be paid to the members at the close of each year in proportion to each individual's share of the total business that year. This is very important as it fixes the responsibility on each member to include patronage when he figures his income tax return.

4. Capital — no business can succeed if all margins or profits are given away each year. This section of the bylaws defines the members' obligation to invest in the co-op each year as stock or equity capital an amount determined by the board of directors — such amount not to exceed the individual's patronage for that year.

5. Marketing Contract — more marketing co-ops find themselves in difficulty through a lack of a firm marketing contract with their members than for any other cause. A "Gentlemen's Agreement" to do business with a co-op may be fine but only a firm signed contract will insure business year after year.

C. Followup

We have a principle in Colorado that a member of our Markets Division will attend each directors' meeting of all new co-ops for at least one year, if they want us, to help them over some of the rough spots experienced by all new organizations.

II. Aid Existing co-ops

Many of our cooperatives were organized 20 or 30 years ago and are still trying to follow business principles and use bylaws which were correct at that time. Times change and it is up to us to assist these organizations in modernizing their bylaws and financial structure to conform to modern-day marketing methods.

III. Education

Most of the misunderstanding about co-ops can be corrected through education of members and the directors. We have arrived at a very good working arrangement with the Agricultural College and Extension Service, together with the Colorado Co-op Council, aimed at clearing up this vital problem. Each year we participate in a series of 8 to 10 workshops throughout the State for directors and managers. The progress has been most gratifying.

How effective is this program in Colorado? Results are what count. I would like to discuss briefly a few of the results demonstrated by some of our new cooperatives.

Onion Marketing

The Ault Onion Growers completed their first year of operation in July 1961. In addition to receiving top market prices for their onions, the 19 members of the association enjoyed additional savings and margins of $10, 220. In the previous year the association bought and built facilities for which an indebtedness of $96, 000 was incurred. At the completion of their first fiscal year of operation they were able to liquidate in excess of $23, 000 of this indebtedness, in addition to the benefits mentioned above.

The secret of their success is orderly marketing of onions over an extended period of time. The rigid quality controls imposed by the organization on its members have already established a high reputation throughout their marketing area. A firm marketing contract between the association and its members, developed with the assistance of the Markets Division, has given them the strength of organization needed to achieve their fine record.

Swine Marketing

The Western Colorado Swine Growers Association of Delta, Colo., was organized in March 1961, and is pioneering a new system of marketing livestock which is being watched closely by other segments of the livestock industry.

The purposes of the Association are threefold: (1) To obtain a higher price for hogs raised in western Colorado through a more orderly system of marketing, (2) to improve the quality of swine produced through selective breeding, and (3) to effect savings in cost of production through cooperative buying of feeds and supplies in larger quantities.

Tangible results are already apparent in all three of the categories: (1) The price of No. 1 hogs in western Colorado has always been $1.50 per hundredweight below the Denver market. This summer, for the first time in history, members of the Swine Growers Association are receiving Denver top prices for their hogs — a reflection of orderly marketing rather than bargaining power. The Association selects one day each week to ship hogs for its members. The animals are carefully sorted, graded (using an electronic back fat tester), and shipped in uniform lots. The electronic back fat tester has proved 100 percent accurate to date in grading. (2) Quality improvement is also underway, and many members have used the electronic tester to select breeding stock for the coming year. (3) Savings of 15 percent in cost of feed supplement and 30 percent in cost of veterinary supplies and medicines are already being received by the members.

Apple Marketing

In April 1961, the United Sales and Storage, Inc. of Austin, Colo., was organized with the assistance of the Markets Division, Colorado Department of Agriculture. This is a cooperative of apple growers in western Colorado. Their purpose was the construction of a modern storage and handling building to enable them to care for and store apples properly during and after the harvesting season. In the past, these growers had been completely at the mercy of whatever marketing conditions prevailed at harvest time.

Construction was completed in August 1961, and the building is now being used for the current apple harvest. The first reports indicate the venture to be an unqualified success. Current prices to the growers are fluctuating widely and, as a result, the members of this cooperative are storing most of their apples and establishing markets to be supplied in future months when apples are in shorter supply. According to the board of directors, indications at this time are that it will be necessary to expand their facilities greatly in the next 2 or 3 years as more growers join the organization.

The facilities will also be available during summer months for storage of other fruits such as cherries, peaches, apricots, and pears.

Cantaloup Marketing

The Snow Crest Growers, Inc. of Brighton, Colo., was organized in April 1961, with the assistance of the Markets Division of the Colorado Department of Agriculture. The purposes of the organization are to produce very high-quality cantaloupes in sufficient quantity to supply a large part of the Denver market, and to effect savings in handling and transportation of their produce through cooperative efforts.

Although the Snow Crest Growers, Inc. was organized too late in the year to achieve all of its goals some very tangible results were obtained. They established a successful market with two of the supermarket chains in Denver — an impossibility in the past because of a lack of dependable supply — and made profitable shipments as far east as New York and Boston. This, too, was made possible because of both quantity and quality control of the produce by the organization.

Results obtained to date are just the first step toward orderly marketing by this co-op. Plans are being made at this time for eventual construction of a central handling and packing shed to enable them to expand their operations to other vegetables. They are also working on a seal to be used on all their produce to establish their brand name. Additional members are expected as the results of this first season become known.

Through the establishment of rigid quality controls within the organization this year a very high quality of cantaloup was marketed which will greatly assist their negotiations with retail outlets in future years.

We have found that most farmers do not want a lot of government help or interference in their business. They want to work out their own problems, but they need help in determining how to go about it. This help can best be provided by the State department of agriculture. But in order to give this help it is necessary for you to let the farmers know what you can do for them. In some cases, I understand, departments of agriculture have a policy "We are always available, feel free to call on us." But unless the farmers know that cooperative marketing assistance is actually a function of the department of agriculture they will never even think of you when problems of this type do arise. State departments of agriculture have an obligation to their farmers, not just to give them assistance when they ask for it but to let them know what help is actually available to them. We, in Colorado, feel that real progress is being made in this field.

SCOPE OF ACTIVITIES OF THE FARMER COOPERATIVE SERVICE

J. Kenneth Samuels
Farmer Cooperative Service
U.S. Department of Agriculture

The Farmer Cooperative Service of the U. S. Department of Agriculture provides research, advisory, and educational assistance to farmer cooperative associations. Work of this kind has been carried on continuously by the U. S. Department of Agriculture since 1913 when Congress appropriated specific funds to the Bureau of Markets for cooperative studies.

The Cooperative Marketing Act of 1926, which established a Division of Cooperative Marketing in the Department of Agriculture did not provide for government control, supervision or subsidy for such organizations. Rather, it provided for the research, advisory and educational services to help farmers more effectively organize and operate their own associations for marketing, purchasing, and other business needs.

The significance of cooperatives in American agriculture is evidenced by the fact that most farmers belong to one or more marketing, purchasing, or service-type cooperative. Latest statistics for 1958-59, show 9,658 farmer cooperatives, representing 7,558,550 farmer memberships. These cooperatives marketed farm products or purchased farm supplies for farmers to the extent of more than $11 billion in 1958-59.

We, in Farmer Cooperative Service, see our job as helping farmers to improve the organization structure and performance of their cooperatives. The foundation of our program is research, and our research is designed to determine how farmer cooperatives can be most efficiently set up and operated.

The problems that can be helped by research are many, varied, and often complex. They relate to such areas as form of organization, finance, management, accounting, merchandising, membership relations, procurement of farm supplies, warehousing, transportation, and insurance. Whenever possible, we endeavor to make studies which will serve the needs of groups of associations so that the benefits can be widely dispersed.

Research is of little value unless put to use. Our advisory service work for cooperatives is based on research findings. This advisory work is carried on to help a cooperative or a group of cooperatives meet a specific problem. It may involve assistance on an operational difficulty, a financing weakness, a membership situation, or a merger problem. In order to give practical help on such problems, we draw on research for the best answer. The research workers on our staff also do the advisory work with cooperatives. It is part of their responsibility to get the results of research into effective use.

Our educational work is likewise a staff function and is largely based on our research findings. Our primary job in education is to provide information that can be used in furthering knowledge of sound cooperative organization, principles, and practices. We prepare source materials needed by State department of agriculture workers, county agents, college and vocational teachers, research workers, cooperatives, farm organizations, and many others. One of our primary responsibilities is preparation of national statistics which show trends in number of associations, memberships, and volumes of business for farmer cooperatives.

You may be interested in some recent examples of studies in which we worked with State departments of agriculture. We are making a study of the a cooperative livestock sales association in Milwaukee, Wisc., to appraise their operating problems, competition, and the marketing environment. The State Department of Agriculture is assisting in the study and has provided a list of slaughterers, livestock markets, and dealers. In Minnesota, the State Department of Agriculture is cooperating on a study of the cooperative marketing of eggs. Here we are trying to determine how cooperative egg marketing can be more closely tied together for efficient sales and distribution. In a recent study of livestock marketing in Arkansas, the State Department of Agriculture furnished economic information on the general livestock situation.

In the Norfolk area of Virginia, the dairy cooperatives are considering a merger. We are working with the State Department of Agrictulture in drafting organizational papers for the merged cooperative. Also in Virginia we have worked closely with the State Department of Agriculture in analyzing the marketing situation for sweetpotatoes on the Eastern Shore and have jointly made recommendations for improvement in marketing. As a result of this study, the white potato growers have asked the State Department of Agriculture and our Service to conduct a similar study for them.

We can see opportunities for working more closely with the State departments of agriculture on cooperative problems and we want to increase cooperative work with them. Examples of areas where I believe we could work together for our mutual benefit are:

1. The organization of new cooperatives. Our statistics indicate there are quite a number of new cooperatives formed every year and in some areas of the country there is still opportunity for a considerable amount of cooperative development.

We have a good deal of source material which is useful to a grower group in forming a cooperative. Also, we occasionally meet with grower groups to help them get organized, although, of course, we do not participate in the actual organization of a cooperative.

2. Improving accounting methods. There is wide interest in approving accounting methods, particularly those of local cooperatives, and in developing more uniform accounting for cooperatives in specific commodity areas.

3. Helping cooperatives on merger problems. Many cooperatives need to adapt their organizational structure to better meet the needs of the mass buyers. Sometimes this involves a merger of a number of smaller cooperatives into larger units. An economic study of the problems involved in a specific merger usually helps the group come together in a more orderly fashion.

4. Relating cooperatives to marketing agreement programs. The use of marketing agreements and orders is going to increase as a result of the provisions of the Agricultural Act of 1961. In many situations there may be interest in forming cooperatives or strengthening cooperative organizations to effectively develop a marketing order program and to represent growers in its operation.

We feel that working with farmers on their cooperative problems is a very important activity and can yield tangible benefits to farmers.

OPPORTUNITIES TO DEVELOP MARKETING SERVICE PROGRAMS WITH COOPERATIVES—AS VIEWED BY A COOPERATIVE MANAGER

Ralph B. Bunje
California Canning Peach Association

Marketing service programs by State departments of agriculture will probably find their greatest opportunities in two fields — market information and communication. These areas of need are generally common with most cooperative associations. To be effective, I believe the departments of agriculture should respond to the call for help from the cooperatives, rather than to initiate projects that may only result in creating problems where none need to be.

In the area of market information, State departments frequently have available resources, talents, and statistical data that can be of great help to cooperative marketing associations. Authoritative and objective reports concerning the marketplace can lead to wiser and sounder decisions by those engaged in the marketing process.

Of great value, is the matter of estimating crops. Modern techniques and utilization of modern business machine equipment open a vast new field for research and study in better and more accurate methods of crop forecasting. Accurate knowledge of the supplies available from an authoritative source will often lead to decisions that can result in substantial improvements in the general level of prices for commodities.

I foresee a time when crop forecasting by Federal and State agencies will become more sophisticated, more accurate, more reliable, and more widely used; long-range forecasting involving possible effects of weather changes and temperature influences. All of these things can be incorporated in better service not only to the cooperatives but to all producers of crops.

An additional area of help to cooperatives can be in connection with the development of reliable production costs. Production cost data can be utilized not only by the producers involved but can serve more intelligently as an important background for public information concerning the farmer's cost-price squeeze. Reliable and widespread information concerning the upward trends in production costs should tend to reduce the number of inefficient producers, increase the public acceptance of higher prices, and better enable the farmer's relationship to be explained to the general public. Public agencies can carry out this function and be helpful not only to cooperatives but to producers generally.

Market analyses, by commodities, can also be helpful; but here again such market studies to be helpful to the cooperative should be in response to their need rather than developed outside of the basic area of need. I do not believe there is a proper place for market promotion to be carried out by State agencies with monies that are not generated from the commodity to be promoted. Agricultural commodities compete one with the other. To use public funds to promote one commodity at the expense of another is, in my opinion, an unsound and unjustified use of governmental skills and resources.

In the area of communication, State departments may find opportunities for substantial assistance by making available to producers the facts concerning the supply and demand for commodities; the facts regarding the production costs and the marketing costs that are involved with such commodities. The degree of success in this area is directly related to the reputation for the reliability of the information.

The increasing trend toward urban and industrialized society tends to increase the need for better communication with the consumers. State departments of agriculture can serve a great need in the field of public relations for agriculture by providing a solid backdrop of factual and reliable information concerning the problems in the field of agriculture. By emphasizing the economic importance of agriculture to the State as a whole, State departments of agriculture can be of a maximum service not only to the cooperatives but to agriculture as a whole.

Today's farmer finds his political importance diminishing. He needs knowledgable government officials who can interpret his problems in modern terms. This area of communication, when it is based on facts developed in the area of reliability, can also be helpful to the cooperative.

In summary, I would suggest that State departments can best serve in the field of supply and demand analyses by making reliable statistical data available; in the field of communication, by acting as a source of reliable information to better acquaint our farmers and our modern society with the economic problems and importance of agriculture today.

RAILROAD PIGGYBACK IN AGRICULTURE

J. W. Plant
Atlantic Coast Line Railroad

Each of you is aware of the fact that with the spreading of our highway system and the flexibility of highway transportation the railroads' ability to be competitive has been greatly lessened. Today, by the use of piggyback, the rails are endeavoring to overcome some of their disability of flexibility at origin and destination terminals. Due to the changed merchandising of citrus and produce particularly, piggyback appears to be especially suited for the handling of these products.

Before discussing piggyback and its application to the movement of agriculture products, it is my thought a brief explanation of the five basic plans of piggyback is in order.

Plan I — This is the plan whereby the railroads have the trailers of common motor carriers. The pickup and delivery of freight is by the motor carrier, as is the billing and all contact with the shipper and receiver. The railroad simply substitutes the over-the-road handling.

Plan II — Here the railroad provides the complete service, picks up and delivers the freight, bills it, collects freight charges, and transports the trailers between origin and destination.

Plan III — This plan involves the movement of shipper trailers between origin and destination. The pickup and delivery of freight is performed by the owner of the trailer. Plan III is designed to secure the traffic moving by private transportation.

Plan IV — This plan is the same as Plan III except the shipper owns or leases the rail flatcar as well as the trailers. The rail charges, of course, are somewhat lower than under Plan III.

Plan V — This plan provides for joint rail-motor rates exactly as do all rail rates. The motor carrier may pick up the freight at origin and move it to a rail connection loading point. The rails would then handle to destination and make delivery, the entire move being made on one billing. This procedure could work in reverse with the railroad picking up at origin and the truck line making delivery at the other end.

You can see that the railroads have a plan to fit the users of both common and private truck transportation.

Of the agricultural products that have moved in piggyback service from the territory served by the Atlantic Coast Line Railroad thus far practically all has been citrus, and this movement has been under Plan II with the railroads providing the entire service. It is the development and benefits of this service that I will discuss.

The rail handling of citrus from Florida has steadily declined since World War II. During the spring and summer of 1960, the ACL along with several other Florida and Eastern railroads and the Fruit Growers Express Company decided to see if this trend could be reversed by offering piggyback service. Tariffs were publised to apply from Florida origins to Baltimore, Philadelphia, and New York. The Fruit Growers Express Company purchased fifty 40-foot, mechanically-cooled refrigerated trailers, and in October 1960, we were prepared to commence this "trial" operation.

Up until January 7, 1961, the use of piggyback was not too great; however, on that date, Coast Line inaugurated a Saturday piggyback special with a 33-hour schedule between Lakeland, Fla., and Kearny, N. J., arriving Kearny at 2 a.m., Monday, with earlier arrivals at Baltimore and Philadelphia. From that time on the use of piggyback for the handling of citrus has grown to the extent that the Fruit Growers Express Company now has 500 mechanically-refrigerated trailers in this service.

Plans are now underway to expand the piggybacking of citrus to Louisville, Cincinnati, St. Louis, East St. Louis, Chicago, and Detroit, as well as to some New England destinations. Also, service on tomatoes from Florida to all points to which citrus rates are in effect are being proposed. By this you can see that an orderly expansion of piggyback service for agricultural products is being pursued.

Some rates on watermelons and tobacco have been published, but these went into effect too late this past season, and no traffic was moved on those Plan II rates.

What about advantages of piggyback and its contribution to efficient marketing.

I heard a panel discussion not too long ago that involved the need for improved methods of packaging, shipping, and handling of produce in order to put these products in the housewife's home in better shape. We know that piggyback is contributing to that goal.

It seems that most things start off today with price, so that's where I'll start with these advantages. When dealing with an unregulated commodity, there are transportation cost fluctuations. If there is a surplus of trucks in the area, the cost may be low. If trucks are scarce, the price is higher. We have set our piggyback rates competitively with the rates charged by trucks, and being a regulated carrier, our rates do not vary. The cost of transportation becomes a known factor at all times.

Practically all agricultural products handled by truck are by independent operators. A term "gypsy trucker" has grown up to describe them. I am not qualified to discuss the financial condition of these people; however, I have been told that one-third of them folds up each year — although as many or more decide to give it a try each year. At any rate, we do know that a good mechanically-cooled trailer costs in excess of $12,000. Most trailers of these people are refrigerated by ice, and trailer temperature is not thermostatically controlled. The Fruit Growers Express trailers are equipped with mechanical refrigerating units and are built to rigid specifications, so as to insure maximum efficiency in the handling of perishable products.

We are told by users of piggyback service that by virtue of the controlled temperature in piggyback trailers, the fruit is arriving at destination in excellent condition.

Of benefit to the shipper and receiver has been that, within certain bounds, the loading at origin and unloading at destination can be done at a time convenient to the shipper or receiver.

Piggyback trailers are not faced with delays on account of bad weather as trailers moving over the highway. This dependability contributes to efficient marketing.

These advantages have dealt primarily with those that are generally beneficial to the handling of perishable agricultural products, because, as I said before; perishable products have been the agricultural commodities we have handled thus far. However, as this service expands, I am certain that not only will additional perishable products be included, but other nonperishable agricultural products as well, and in the Southeast from States other than Florida. After our favorable experience in handling perishables, we can see no difficulty at all in handling nonperishable agricultural products. Stabilization of cost, dependability of service, and convenience of time of loading and unloading are just as applicable to nonperishable products as to the perishable.

One other advantage goes beyond the piggyback phase of railroading and overflows into every part of our railroad operation. Whether piggyback brought about this change, or whether the change brought about piggyback, I do not know; however, I do know it is the most important change that I have seen in my 26 years in railroading. This thing I'm talking about is changed railroad management attitudes. It is my own thought that piggyback typifies this attitude. These top management railroad men are genuinely interested in finding out what needs to be done to benefit their customers and then making an effort to do it.

I think that this realistic, positive, and cooperative attitude on the part of railroad management will enable the railroads to find their place in the efficient marketing of agricultural products by use of railroad piggyback.

PETROLEUM INDUSTRY IN AGRICULTURE

James W. Cassady
Standard Oil Company of Kentucky

Let me tell you just how tremendous agriculture is in the eyes of the petroleum industry. Annually, farmers provide a market of a total of $1-1/2 billion for oil products alone. They use 50 million tons of chemicals and enough rubber to put tires on 6 million cars. I don't have to tell you that this is big business, and don't you think for one moment that we of the petroleum industry fail to recognize the American farmer today as a very aggressive businessman.

Do you know, that in the next 20 years it is estimated that the United States population will reach 211 million people? This is a 25 percent increase and you have got to feed them! This, of course, means that there are two basic things which must, and will, take place. First, the size of the individual farm must increase; second, the operation and cultivation of that farm must become more mechanized than it is even today.

Here is where the petroleum industry and agriculture really "get together." Recognizing the farmer to be our number one consumer market, we are anticipating these increases and gearing our industry to be ready for your needs — in all the fields we are currently privileged to serve you and in new fields which are in the research stage.

When the average person thinks about the oil industry helping the farmer, his or her mind, very likely, would automatically go no further than the word "gasoline." Some people, more familiar with farm operations, might even go so far as to think of gasoline, diesel fuel, and even fuel oil for the heating and cooking purposes. However, the farmer himself is fully conscious of the fact that petroleum serves him in so many ways that he would be virtually helpless on the modern farm today without it. We have surrounded him with luxuries and necessities: the detergents his wife uses in the dishwasher or washing machine; the soap with which he washes his hands; many of the clothes his family wears; the paint on his home, outlying buidings, and equipment; the shingles on the roofs of each building; the pen and ink with which he writes. Petroleum plays a very major role in the production of the paper on which all of his records are kept; in the cosmetics both he and his wife use; in the toys his children play with. In fact, petroleum plays such a large part in our modern-day living — on the farm, in the city, or anywhere else — that I shudder to think of life without it!

We, of the petroleum industry, spend very large sums of money each year in the support of farm programs and education throughout these United States. We not only want to get better acquainted with the farmer, but we want him to get better acquainted with us and our products. We want him to know everything there is to know about the new and improved products which come out of our research laboratories, designed specifically, and tailored exactly, to meet his needs. Moreover, we want him to know how to apply these products and to handle them safely, as well as to the very best possible advantage.

We not only want his home living condition to be the best in the world, and his equipment to function at peak performance, but we also want him to be able to raise his crops with a yield of as near 100 percent as possible. However, and in spite of all our ambitions for the farmer, we find that he, like most of us, is his own worst enemy.

Now, this is not intended as a statement of criticism of the farmer alone, for I am just as guilty as he is in not having my automobile properly serviced at the proper time. However, it is authoritatively pointed out that farm tractor repairs alone cost the American farmers more than $500,000,000 each year, half of which could be saved by proper service and care. About 10 percent of all fuel could be saved through the proper care of equipment.

The Future Farmers of America, operating through the vocational agricultural departments of high schools, is attempting to deal with this problem and has a very effective program on dealing with power, care of machinery, safety, production programs, and others. The petroleum industry contributes much to this program and it is our sincere hope that by educating the farmers in this respect they will be able to constantly improve on the economy of operating their equipment and thereby realize a larger percentage of profit for their labors.

Two things which are a constant source of concern to the agricultural industry are fertilizer and insects. As a result of petroleum chemical research and production, these two problems have been substantially reduced. Yet, only about 1/8 of the United States farmland is treated with pesticides, and less than 1/3 is fertilized. Compost has been used for centuries to replenish the soil and it wasn't until the beginning of the 19th century that farmers realized that what compost helped provide was the nitrogen that the crops ate up as they grew. Nitrogen is also a byproduct of oil refining and, thus, it was natural that the petroleum industry would be the prime producer of nitrogen compounds and other fertilizers. This source of nitrogen provided agriculture with maximum fertilization — minus the weeds and grass seeds which are concentrated in compost.

Insects have not always been man's enemy. Creation saw fit to balance the vegetables and animal kingdom to the ultimate advantage of each. However, as civilized man advanced, cultivating new lands and increasing his output, insects followed and multiplied enormously. Thus, the finely drawn balance was naturally destroyed. In 1907, a chemist and entomologist, E. E. Luther and W. W. Volck, devised the first petroleum insecticide other than kerosene: a spray oil that checked the ravaging San Jose scale. From that day to this, petroleum chemical research has made tremendous strides in controlling insects, and along the way it found that controlling the growth of weeds and grass and many other types of undesirable vegetation was possible. Much progress has been made in this direction, and in the field of petroleum chemicals there are many things being studied and developed which will be of great assistance to agriculture and mankind.

Over the course of the next 10 years, from petroleum research laboratories will come many astounding developments, and, because agriculture is our number one consumer market, you can "bet your bottom dollar" it will be among the top on the priority list.

Yes, we are old friends — friends of more than 100 years of working together and cooperating fully. The same as you in agriculture, we in petroleum look forward enthusiastically to this continued relationship and to a world so far advanced that today's modern farmer will be as outmoded then as is the farmer of 1859.

FUTURE OF MOTOR TRANSPORT

Forney A. Rankin
American Trucking Associations, Inc.

Motor transport, like other forms of transportation, is in a state of revolution which started years ago and gives promise of continuing.

This revolution appears to be moving along a half dozen fronts, which I may summarize as follows: (1) Modernization of weight laws to permit more efficient pay loads; (2) increasing emphasis upon transport of bulk commodities; (3) a growing emphasis upon packaging and handling equipment; (4) further standardization of equipment; (5) the integration of the truck into our national assembly lines; (6) the true coordination of all transportation facilities.

I think we will agree that there are inherent differences between what trucks and rails, the two great modes of land surface transport, are best fitted to do. Each has certain advantages. Trucks can pick up and deliver general freight more economically and infinitely more efficiently than railroads over most distances. However, in the handling of large volume,heavy, bulk freight shipped over long hauls between major centers, rails have some advantage over the motortruck, where distance is a prime factor. But the spread of urbanization and the dispersion of population and industry make the role of the truck increasingly important. Distribution outlets, shopping centers and production areas are usually found beyond older metropolitan centers, whereas the rail lines run from city to city — larger and older cities. Usually cargoes carried by rail must be picked up at a freight station downtown in the terminal city and hauled to final destination, often miles toward the direction of origin — in motortrucks. Thus it is increasingly logical to ship via truck from the outset. Trucks have the advantages of local pick-up-and-delivery, speed, safety, door-to-door service. These advantages will be utilized more and more frequently as equipment is being improved constantly to fit the special needs of the shipper.

Much more realistic size and weight laws among States are inevitable. The Government is engaged in constructing a 41,000-mile interstate highway system. As these new highways are built to the most modern standards, they provide a sound basis for hope that unrealistic load limitations in many other areas can be brought up to date. The new system is engineered to assure greater highway safety, improved fields of vision, more efficient grades, elimination of grade-level crossings, and many other features. Furthermore, higher speeds can be safely maintained on such roads.

Our problems in the field of reciprocity are gradually being worked out. I'm sure you know all too well that complications and lack of uniformity in reciprocity are due to variations in the laws of the different States. The trucking industry, together with groups of State officials and other organizations interested in improving motortruck transportation, have been drafting a proposed uniform enabling act of reciprocity. We now hope that their recommendations will be adopted in the Uniform Vehicle Code and be made available to the States as they can bring their laws up to date on a uniform basis. The achievement of this objective will eliminate many of the frustrating complications caused by nonuniformity. As a result, the movement of motor vehicles in interstate commerce will then automatically become more flexible and economical, providing better and less expensive transportation service to the Nation.

Right here I would mention the subject of double bottoms — one tractor and two truck trailers in tandem — which carry loads up to 127,000 pounds. Their use is being permitted and encouraged by five of the major turnpikes, New York, Massachusetts, Ohio, Indiana and Kansas. The results are most gratifying. Now that such realistic gross weights are permitted, truck operators are in a position to compete with the rails for previously rail-bound freight, including grains, feeds, and other bulk agricultural commodities.

This amount of cargo weight naturally requires a very high-type road, and this is exactly what the interstate system is now finally providing. (It should be noted that the double-bottoms referred to are broken down when they leave the pikes — that is, each trailer is pulled by a separate tractor to move the freight beyond the pike termini.)

The trucking industry has made remarkable progress in the development of equipment and techniques for extending the farm market to the farthest corners of the land. A striking example of the results is the frozen food industry, which owes its beginning and its place in national marketing to the motortruck. Moreover, truck operators, working in close cooperation with growers and processors, made possible the development of the equipment for transporting frozen orange juice concentrates out of Florida not many years ago. Today, 70 percent of frozen foods are hauled by truck... and the industry rocketed to a gross of $525 million last year.

We are all familiar with the bulk tank trucks used in hauling fluid milk. Today they carry over 60 percent of all fluid milk to market. The list of other fluid products which move in truck tanks is a long and growing one. It includes liquid fertilizers, molasses, certain fruits (such as cherries in brine), chemicals and juices.

The ATA and the Truck Trailer Manufacturer's Association, representing the trucking industry and one of its most important suppliers, have been working with the U. S. Bureau of Standards and the U. S. Department of Agriculture to develop a standard rating method for refrigerated trailers. Research and testing facilities have been established in Philadelphia, where we are now testing a method to obtain BTU ratings for trailers under carefully simulated traffic conditions. This information will be an advantage to the shipper because he will be able to know in advance the heat load generated by the commodity to be transported and also the heat transfer characteristics of the trailer involved. Given this information he can determine the size and capacity of refrigeration units required to provide his cargo protection with minimum cost of operation. At the same time, the truck operator can know what type of units he needs best to serve the shipper. As improved designs of equipment, intended primarily for the transportation of frozen foods, are developed they will also be made available to shippers of other perishable commodities, such as fruits, vegetables, shell fish, dairy products, and meat.

Another advance in technique which is rapidly developing is in the direction of standard containers. The American Standards Association is sponsoring a series of committees studying this field. One committee is working to develop acceptable standards for van-size containers; another is doing the same on cargo-size containers; yet another on pallet containers; still another group is working on international standards, which have recently become a significant factor. Containers, of course, mean speedier shipment and less disturbance to the commodity by handling, damage or pilferage. Van containers are already in use in some areas for the transporation of perishables by joint modes of transport - e.g., shipments of fruits and vegetables from the Rio Grande

Valley through the port of Houston via Sealand Service, Inc. to Newark, N. J. Then there is the growing amount of shipping between North American ports and those of Latin America. The use of joint highway-rail and highway-sea transportation of containers is expected to expand tremendously in the years ahead, and should be of particular benefit to farm marketing.

One very ingenious, and very promising, development in the construction of truck trailers is the use of a foamed-in-place type of insulation for van-type trailers. The insulation cavity of a refrigerated trailer is filled with this foam which once it has set, or hardened, becomes impervious to moisture, provides excellent insulation, and adds very little extra weight. This means greater insulating capacity and a greater cubic capacity made possible by the thinner side walls used with this new material.

Motor carriers now are taking steps to develop and expedite the interchange of equipment. We have an industry committee working on the problems — both technical and policy - that have plagued the industry in the past. The committee has power - voluntarily bestowed by cooperating industry members - to establish rates for the use of inter-line equipment. It somewhat resembles a tariff bureau in this respect, except that its authority is restricted to establishing recommended standards and rental charges for the use of inter-line equipment.

There is already considerable standardization of equipment within the trucking industry. Two very important examples are the fifth wheel and the electrical connector, both of which allow for free interchange of trailers between carriers.

This provides two big advantages to the shipper: (1) The lading moves from origin to destination without the necessity of transferring, - thereby reducing damage and breakage and expediting interchange, transit time and ultimate delivery to the consignee; and (2) there is more efficient and economical use of the trailers, which of course results in direct benefit to the shipping public.

The motortruck as a vital part of a national assembly line was referred to earlier as a "front" along which the transportation revolution is moving. Actually this is already a well-established essential function of the motortrucks in certain industries and is sure to increase dramatically in the decades ahead. A case in point is that of General Motors. GM has reported that its manufacturing complex is supplied by over 27,000 small firms located in various parts of the country. Obviously, it takes the motortruck to maintain the numerous regular schedules which such an operation of assembly lines requires.

The trend toward dispersal of industry will continue and accelerate. It will continue to move from the older congested areas to places where more space is available. An enormously greater number of industrial sites will certainly be selected without regard to the proximity of rail, water or other canalized transport facilities.

Such a development appears inevitable because the census forecasters predict that our present population of 185 million will grow to over 210 million by 1970. The trend of population, also, is outward from the older, more congested centers... a trend made possible by the automobile and good highways. Experts expect us to have 90 million motor vehicles on the road by 1970... 19 million more than we now have.

Our gross national product is predicted to rise to $750 billion a year, compared with $503 billion in 1960. All of this will produce an estimated requirement for some four million more trucks than the 11-1/2 million we have now. Predictions of greatly increased growth and dispersal of people and industry seem inevitably to be based upon the assumption of a corollary increase in truck service.

In discussing the coordination of transportation facilities — the sixth front of this transportation revolution — let me quote from a speech delivered a year ago before the Southern Research Institute meeting in Birmingham by Welby M. Frantz, then board chairman of ATA. Mr. Frantz said:

> "Except for trucks, no other form of freight transport possess inherent flexibility. Rails bind the railroad train to the tracks, water courses dictate where vessels can go, landing fields control the terminal points of airlines. Trucks, of course, can go anywhere. . .
>
> "With the Nation expanding as it is, and moving ever outward from these fixed installations of other types of transport, it becomes obvious that a new relationship must be developed between the motortruck as an instrument, and the other forms of transport. They must be married. Trucks can give to any other form of transport its own flexibility; and in joint operation, trains and trucks, for example, can perform a continuous service from origin to destination."

One form of such marriage between different modes of transport is "piggyback service."

Although this type of service — which is not new — even predating the trucks (there are old records of farm wagons loaded with produce being "piggybacked" to market) — has enjoyed a resurgence of interest over the past few years.

As you know, there are several plans for utilizing piggyback which, of course, is under control of the railroads. Up to now the rails have overwhelmingly favored those plans which permit them to move trailers owned by them, or by large shippers or freight forwarders, on rail-owned flatcars. The railroads have generally discriminated against the average motor common carrier desiring to ship his own trailers by piggyback over long distances.

Piggyback, as now employed by the rails, thus favors the rails themselves, or their motor subsidiaries and certain large volume shippers.

The number of piggyback special trains will always be limited, and they will run only between major rail termini. The current rail practice not only shuts out the many motor carriers but also the small shippers and shippers located at a distance from these major rail centers who are denied this service. And, there is a large and growing number of shippers located in just such dispersed places.

We feel very strongly that piggyback service should be available to any motor carrier or shipper, regardless of size or location,who desires it, and that the rates to shippers should be adequate to cover fully-allocated costs. We are convinced that the true destiny of piggyback will be found in a cooperative joint arrangement between motor and rail carriers.

Here let us remember that piggybacking is only one example of "the marriage of the modes." There are other, possibly more important means of wedding the modes. Inter-lining services among rail and truck lines with joint rates is a truly cooperative arrangement, which is already being employed by some carriers.

Therefore, we feel that the most dramatic development in transport . . . and one that will finally give this Nation a really unified transportation system, will be the achievement of true, voluntary cooperation and coordination between the independent modes of transport, with each doing that for which it is best suited, in the interest of the shipper and the consumer.

PERSONS ATTENDING THE WORKSHOP

Ackerman, Eugene A.	Wiregrass Farmers Produce Market	Dothan, Ala.
Alampi, Phillip	N. J. Dept. of Agriculture	Trenton, N. J.
Allen, Byron G.	Off. of Sec., U. S. Department of Agriculture	Washington, D. C.
Allen, M. B.	ERS, U. S. Dept. of Agriculture	Experiment, Ga.
Amorelli, Gino F.	N. Y. Dept. of Agriculture and Markets	Albany, N. Y.
Anderson, W. W.	Md. State Board of Agriculture	College Park, Md.
Arnold, W. C.	Ga. Dept. of Agriculture	McDonough, Ga.
Aull, George H.	Clemson Agricultural College	Clemson, S. C.
Bain, Patterson	Mo. Dept. of Agriculture	Jefferson City, Mo.
Baker, Robert C.	Cornell University	Ithaca, N. Y.
Ball, B. Dale	Mich. Dept. of Agriculture	Lansing, Mich.
Ballentine, L. Y.	N. C. Dept. of Agriculture	Raleigh, N. C.
Barnes, Jack W.	Michigan Milk Producers Assn.	Detroit, Mich.
Barron, Wade	Ark. Livestock Sanitary Board	Little Rock, Ark.
Bartholomew, David M.	Kans. State Board of Agriculture	Topeka, Kans.
Beal, G. M.	University of Maryland	College Park, Md.
Bell, Frank W.	Va. Dept. of Agriculture and Immigration	Onley, Va.
Bennett, Frank	Calif. Dept. of Agriculture	Sacramento, Calif.
Beridon, O. P.	La. Dept. of Agriculture and Immigration	Hamburg, La.
Binger, Carl L.	Florida Egg Commission	Tampa, Fla.
Black, William E.	Florida Citrus Commission	Lakeland, Fla.
Blackwell, Cecil	Progressive Farmer	Birmingham, Ala.
Blades, Jack	Del. State Board of Agriculture	Dover, Del.
Boss, Bernadine	N. Dak. Dept. of Agriculture and Labor	Bismarck, N. Dak.
Bradley, Ralph S.	Ill. Dept. of Agriculture	Springfield, Ill.
Brasfield, Kenneth H.	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Bray, Harold	Ky. Dept. of Agriculture	Frankfort, Ky.
Brinson, Emory L.	Ga. Dept. of Agriculture	Atlanta, Ga.
Brosnan, D. W.	Southern Railway System	Washington, D. C.
Brown, Albert	Colo. Dept. of Agriculture	Denver, Colo.
Brown, Sammy F.	Wiregrass Farmers Produce Market	Dothan, Ala.
Browning, Perry	Browning Turkey Farms	Winchester, Ky.
Buchanan, G. S.	Va. Dept. of Agriculture and Immigration	Richmond, Va.
Bunje, Ralph B.	Calif. Canning Peach Assn.	San Francisco, Calif.
Butler, Jack	Red River Valley Potato Commission	East Grand Forks, Minn.
Callaway, Robert P.	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Campbell, Phil	Ga. Dept. of Agriculture	Atlanta, Ga.
Carbaugh, S. M.	Va. Dept. of Agriculture and Immigration	Richmond, Va.
Carlson, Roy D.	Minn. Dept. of Agriculture	St. Paul, Minn.
Cassady, James W.	Standard Oil Company of Kentucky	Atlanta, Ga.
Charron, William P.	Maine Dept. of Agriculture	Augusta, Maine

Chick, George H.	Maine Dept. of Agriculture	Augusta, Maine
Childs, A. A.	Irwin Growers Association	Chula, Ga.
Childs, Rex E.	AMS, U. S. Dept. of Agriculture	Athens, Ga.
Christensen, S. Kent	Natl. Assn. of Food Chains	Washington, D. C.
Churchill, John R.	ASCS, U. S. Dept. of Agriculture	Washington, D. C.
Clark, Harold O.	Vt. Dept. of Agriculture	Barre, Vt.
Clawges, Judith Lee	Florida Egg Commission	Tampa, Fla.
Clement, Joel	Ala. Dept. of Agriculture and Industries	Wilfield, Ala.
Close, Elmer G.	Fla. Dept. of Agriculture	Tallahassee, Fla.
Clough, L. L.	N. Y. Dept. of Agriculture and Markets	Albany, N. Y.
Clum, Harold V.	Agricultural Extension Service	Athens, Ga.
Coddington, James W.	AMS, U. S. Dept. of Agriculture	New Orleans, La.
Coggin, G. W.	Ga. Dept. of Agriculture	Newnan, Ga.
Coleman, G. E.	Nichols Poultry Farm	Brunswick, Maine
Collier, Curtis	Poultry and Egg National Board	Atlanta, Ga.
Collins, Edward C.	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Conner, Doyle	Fla. Dept. of Agriculture	Tallahassee, Fla.
Conner, John S.	Ga. Milk Producers, Inc.	Atlanta, Ga.
Conyers, L. N.	Va. Dept. of Agriculture and Immigration	Richmond, Va.
Cook, Bob	Wash. Dept. of Agriculture	Olympia, Wash.
Cook, Hugh L.	University of Wisconsin	Madison, Wis.
Cooper, J. Ward	Farm Bureau	Lansing, Mich.
Cordell, Joe	AMS, U. S. Dept. of Agriculture	Atlanta, Ga.
Cox, Calvin	Atlanta Constitution	Atlanta, Ga.
Crottinger, William H.	Great Plains Wheat, Inc.	Garden City, Kan.
Crow, William C.	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Curry, John A.	Ala. Dept. of Agriculture and Industries	Montgomery, Ala.
Dahl, Math	N. Dak. Dept. of Agriculture and Labor	Bismarck, N. Dak.
Dalrymple, Daniel M.	N. Y. Dept. of Agriculture and Markets	Albany, N. Y.
Davidson, Victor K.	U. S. Dept. of Agriculture	Jackson, Miss.
Davis, Elizabeth P.	Vt. Dept. of Agriculture	Montpelier, Vt.
DeCuir, Walter	La. Dept. of Agriculture and Immigration	Baton Rouge, La.
DeLoach, Reese	Ga. Dept. of Agriculture	Glennville, Ga.
DeMarse, R. H.	S. C. Agricultural Marketing Commission	Columbia, S. C.
Dobbs, Wiley	N. Y. Dept. of Agriculture and Markets	Rochester, N. Y.
Dodd, Ward	Ill. Dept. of Agriculture	Springfield, Ill.
Donaldson, George P.	Ga. Agricultural Commodity Commission for Peanuts	Tifton, Ga.
Dorris, Cecil	Ill. Dept. of Agriculture	West Frankfort, Ill.
Driggs, Leslie W.	N. Y. Dept. of Agriculture and Markets	Albany, N. Y.
Duncan, James T.	Fla. Fruit and Vegetable Assn.	Orlando, Fla.

Duncan, Spencer G.	N. Y. Dept. of Agriculture and Markets	Albany, N. Y.
Dunham, Carroll	Northeastern Egg & Poultry Producers' Council	Southbury, Conn.
Dyer, Boyce	Ga. Dept. of Agriculture	Atlanta, Ga.
Echterling, C. J.	Mich. Dept. of Agriculture	Mason, Mich.
Edwards, Chuck	Southeastern Poultry & Egg Assn.	Atlanta, Ga.
Elks, Charles B.	N. C. Dept. of Agriculture	Raleigh, N. C.
English, C. E.	Ga. Dept. of Agriculture	Atlanta, Ga.
Ezell, J. Crawford	Ga. Dept. of Agriculture	Monticello, Ga.
Failing, Bruce F.	Beacon Milling Company	Cayuga, N. Y.
Faller, Marvin A.	La. Dept. of Agriculture and Immigration	Baton Rouge, La.
Farrington, Carl C.	Archer-Daniels-Midland Co.	Minneapolis, Minn.
Farris, W. S.	Purdue University	Lafayette, Ind.
Faubus, Doyle	Ark. Livestock Sanitary Board	Little Rock, Ark.
Feduccia, Lawrence	La. Dept. of Agriculture and Immigration	Baton Rouge, La.
Fenger, George A.	Miss. Dept. of Agriculture	Jackson, Miss.
Fleming, Philip V.	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Flett, Monte R.	Natl. Livestock and Meat Board	Chicago, Ill.
Franklin, Sam J.	Ga. Dept. of Agriculture	Statesboro, Ga.
Fulk, Kenneth R.	Iowa Dept. of Agriculture	Des Moines, Iowa
Fulmer, John L.	Ga. Dept. of Agriculture	Atlanta, Ga.
Gay, M. C.	Ga. Council of Farmer Cooperatives	Athens, Ga.
Gayvert, R. A.	Agricultural Extension Service	Athens, Ga.
Gehgan, Berwyn	North American Poultry Co-op Assn.	New York, N. Y.
Gerk, Fred A.	N. Mex. Dept. of Agriculture	Las Cruces, N. Mex.
Germany, Ralph	La. Dept. of Agriculture and Immigration	Baton Rouge, La.
Gilbert, Samuel J.	Iowa Dept. of Agriculture	Des Moines, Iowa
Gilchrist, Jack	Ga. Dept. of Agriculture	Atlanta, Ga.
Girth, Harold B.	N. J. Dept. of Agriculture	Trenton, N. J.
Grange, George	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Gray, Bobby	N. Mex. Dept. of Agriculture	Las Cruces, N. Mex.
Grigsby, Reid M.	Louisiana State University	Baton Rouge, La.
Grimstead, Otto	Ga. Dept. of Agriculture	Augusta, Ga.
Haldeman, Robert C.	Southern Railway System	Washington, D. C.
Hamilton, E. W.	Southern Frozen Foods	Montezuma, Ga.
Hamilton, R. S.	Southern Railway System	Washington, D. C.
Hand, Paul E.	Interstate Milk Producers Co-op.	Philadelphia, Pa.
Handwerk, Wayne C.	Campbell Soup Company	Camden, N. J.
Harris, Clarence	N. C. Dept. of Agriculture	Raleigh, N. C.
Harris, J. R.	Iowa Dept. of Agriculture	Des Moines, Iowa
Harris, L. H.	Ga. Dept. of Agriculture	Atlanta, Ga.
Haugh, Francis J.	Wis. Dept. of Agriculture	Madison, Wis.
Hays, James T.	La. Dept. of Agriculture and Immigration	Baton Rouge, La.

Henry, Ralph M.	Florida Citrus Commission	Lakeland, Fla.
Hickling, William C.	N. Dak. Dept. of Agriculture and Labor	Bismarck, N. Dak.
Hicks, Robert E.	Ga. Dept. of Agriculture	Atlanta, Ga.
Hindman, Ruel R.	Ill. Dept. of Agriculture	Springfield, Ill.
Hine, Luther C.	Sumter Sweet Potato Association	Leslie, Ga.
Hines, Wilson	Florida Citrus Commission	Decatur, Ga.
Hoecker, R. W.	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Holkesvik, Roger	N. Dak. Dept. of Agriculture and Labor	Bismarck, N. Dak.
Holland, Louis	Md. State Board of Agriculture	Salisbury, Md.
Holman, Leo E.	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Homme, Henry A.	North Carolina State College	Raleigh, N. C.
Hoofnagle, William S.	ERS, U. S. Dept. of Agriculture	Washington, D. C.
Hutchins, D. C.	Clemson Agricultural College	Columbia, S. C.
Jaffray, Benjamin S.	Cargill, Inc.	Norfolk, Va.
Jameson, Wayne L.	Ga. Dept. of Agriculture	Atlanta, Ga.
Jennings, Matt	Tenn. Dept. of Agriculture	Nashville, Tenn.
Johnson, R. B.	La. Dept. of Agriculture and Immigration	Baton Rouge, La.
Johnston, Harvey L.	Mo. Dept. of Agriculture	Jefferson City, Mo.
Jones, Charles C.	Va. Dept. of Agriculture and Immigration	Richmond, Va.
Jones, Ed	La. Dept. of Agriculture and Immigration	Oak Grove, La.
Jones, Harold B.	ERS, U. S. Dept. of Agriculture	Athens, Ga.
Jones, Paul B.	Miss. Dept. of Agriculture	Senatobia, Miss.
Kee, M. Fisher	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Keener, Pyron	Ala. Dept. of Agriculture	Montgomery, Ala.
Kemper, George D.	W. Va. Dept. of Agriculture	Weston, W. Va.
Kennett, H. C.	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Killam, Millard	AMS, U. S. Dept. of Agriculture	Atlanta, Ga.
King, Richard	North Carolina State College	Raleigh, N. C.
Kolmer, Lee	Iowa State University	Ames, Iowa
Kuhrt, W. J.	Calif. Dept. of Agriculture	Sacramento, Calif.
Lacey, Clyde D.	Okla. State Board of Agriculture	Oklahoma City, Okla.
Lane, William E.	N. C. Dept. of Agriculture	Raleigh, N. C.
Langford, C. H.	Clemson Extension Service	Columbia, S. C.
Langley, Archie	Crop Reporting Service, U. S. Department of Agriculture	Athens, Ga.
Lantz, Fred	W. Va. Dept. of Agriculture	Charleston, W. Va.
Lee, Hugh D.	Florida Citrus Commission	Lakeland, Fla.
Leger, Charles M.	Cordele State Farmers Market	Cordele, Ga.
Lewis, Porter	Beckley Farmers Market	Beckley, W. Va.
Ligon, John J.	Va. Dept. of Agriculture and Immigration	Richmond, Va.
Macomb, Richard	Fla. Dept. of Agriculture	Jacksonville, Fla.
MacPherson, D. D.	AMS, U. S. Dept. of Agriculture	Washington, D. C.

Mahoney, John E.	Md. State Board of Agriculture	College Park, Md.
Manning, George R.	Seabrook Farms Company	Elmer, N.J.
Martin, Hugh B.	N.C. Dept. of Agriculture	Raleigh, N.C.
Martin, Loyd C.	ERS, U.S. Dept. of Agriculture	Washington, D.C.
Martin, Maurice M.	Pa. Dept. of Agriculture	Harrisburg, Pa.
Maslyn, Joseph	N.Y. Dept. of Agriculture and Markets	Albany, N.Y.
Matheson, John L.	N.Y. Dept. of Agriculture and Markets	Albany, N.Y.
Maxwell, R. S.	W. Va. Dept. of Agriculture	Charleston, W. Va.
Mayo, W. H.	Campbell Soup Company	Cairo, Ga.
McClay, T. A.	FS, U.S. Dept. of Agriculture	Washington, D.C.
McConnell, E. S.	Browning Turkey Farms	Winchester, Ky.
McDonald, Walter R.	Ga. Public Service Commission	Atlanta, Ga.
McKelvey, Lee	Ga. Dept. of Agriculture	Atlanta, Ga.
McLaughlin, Frank P.	W. Va. Dept. of Agriculture	Charleston, W. Va.
Mellinger, Ross H.	SCS, U.S. Dept. of Agriculture	Parkersburg, W. Va.
Mileham, Harry P.	Inf., U.S. Dept. of Agriculture	Washington, D.C.
Miller, Alan R.	W. Va. Dept. of Agriculture	Charleston, W. Va.
Miller, Karl D.	Ohio Dept. of Agriculture	Columbus, Ohio
Miller, Minard F.	AMS, U.S. Dept. of Agriculture	Lakeland, Fla.
Miller, Sidney C.	Md. State Board of Agriculture	College Park, Md.
Mohler, Lowell	Kan. State Board of Agriculture	Topeka, Kan.
Monfort, Kenneth	Monfort Feed Lots	Greeley, Colo.
Moore, Donald R.	Farm Bureau	Lansing, Mich.
Moore, W. H.	Ga. Dept. of Agriculture	Savannah, Ga.
Morell, Bartolome M.	Agr. Council of Puerto Rico	San Juan, P.R.
Morgan, B. B.	Farmers Peanut Committee	Coleman, Ga.
Moss, W. F.	Tenn. Dept. of Agriculture	Nashville, Tenn.
Murphy, Ismael Ramirez	P.R. Dept. of Agriculture	San Juan, P.R.
Murphy, Rupert L.	Interstate Commerce Commission	Washington, D.C.
Nardelli, John	N.J. Dept. of Agriculture	Cedarville, N.J.
Neustadt, M. H.	AMS, U.S. Dept. of Agriculture	Beltsville, Md.
Newdick, E. L.	Maine Dept. of Agriculture	Augusta, Maine
Newton, Baxter	Wis. Dept. of Agriculture	Madison, Wis.
Norman, Hudson	Ga. Dept. of Agriculture	Atlanta, Ga.
Olson, Don W.	Wash. Dept. of Agriculture	Olympia, Wash.
Owens, J. B.	Fla. Dept. of Agriculture	Tallahassee, Fla.
Parham, Ben H.	Ga. Dept. of Agriculture	Talbotton, Ga.
Park, R. J.	Tenn. Dept. of Agriculture	Goodlettsville, Tenn.
Pasternak, Mildred	AMS, U.S. Dept. of Agriculture	Washington, D.C.
Pearce, Dave L.	La. Dept. of Agriculture and Immigration	Baton Rouge, La.
Pettus, David	AMS, U.S. Dept. of Agriculture	Washington, D.C.
Pierce, C. W.	Pennsylvania State University	University Park, Pa.
Pitzer, Art	N.C. Dept. of Agriculture	Raleigh, N.C.
Plant, J. W.	Atlantic Coastline Railroad	Jacksonville, Fla.
Poole, Allen	Fla. Dept. of Agriculture	Tallahassee, Fla.
Poole, William R.	AMS, U.S. Dept. of Agriculture	Atlanta, Ga.

Price, Johnson	Ky. Dept. of Agriculture	Lancaster, Ky.
Prochaska, Stanley W.	AMS, U. S. Dept. of Agriculture	Atlanta, Ga.
Proseus, Franklin M.	N. Y. Dept. of Agriculture and Markets	Albany, N. Y.
Purcell, Joe	Ga. Agricultural Experiment Sta.	Griffin, Ga.
Rainey, John L.	Pa. Dept. of Agriculture	Harrisburg, Pa.
Ralph, James T.	Asst. Secretary, U. S. Dept. of Agriculture	Washington, D. C.
Rankin, Forney A.	American Trucking Assn., Inc.	Washington, D. C.
Ray, Lew	Colo. Dept. of Agriculture	Denver, Colo.
Rhodes, Giff	Fla. State Marketing Bureau	Jacksonville, Fla.
Rigdon, Fred W.	Ga. Dept. of Agriculture	Tifton, Ga.
Risher, Frank W.	Fla. Dept. of Agriculture	Tallahassee, Fla.
Roberts, W. R.	Ga. Dept. of Agriculture	Nashville, Ga.
Roberts, Woodrow W.	La. Dept. of Agriculture and Immigration	Baton Rouge, La.
Rogers, Robert	Ill. Dept. of Agriculture	Springfield, Ill.
Rouse, W. L.	Ky. Dept. of Agriculture	Lexington, Ky.
Rowell, Paul T.	Ore. Dept. of Agriculture	Salem, Ore.
Ryall, A. Lloyd	AMS, U. S. Dept. of Agriculture	Beltsville, Md.
Samuels, J. Kenneth	FCS, U. S. Dept. of Agriculture	Washington, D. C.
Savage, Job K.	RAD, U. S. Dept. of Agriculture	Washington, D. C.
Scarborough, E. F.	Fla. State Marketing Bureau	Jacksonville, Fla.
Scheffer, William J.	Seabrook Farm Company	Seabrook, N. J.
Scott, Leon	Miss. Dept. of Agriculture	Crystal Springs, Miss.
Scruggs, J. T.	Ga. Fed-State Inspection Service	Macon, Ga.
Seaton, George	Ga. Dept. of Agriculture	Atlanta, Ga.
Seeborg, Edward F.	FAS, U. S. Dept. of Agriculture	Washington, D. C.
Shelnut, Charles F.	Mass. Dept. of Agriculture	Boston, Mass.
Shomo, S. Hollis	Va. Dept. of Agriculture and Immigration	Richmond, Va.
Siedschlag, E. W.	Clemson Extension Service	Columbia, S. C.
Simpson, J. E.	ARS, U. S. Dept. of Agriculture	Washington, D. C.
Small, Ed	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Smith, H. A.	N. C. Dept. of Agriculture	Raleigh, N. C.
Smith, Lloyd L.	AMS, U. S. Dept. of Agriculture	Athens, Ga.
Smith, S. R.	AMS, U. S. Dept. of Agriculture	Washington, D. C.
Sockell, W. J.	Seaboard Manufacturing Co.	Raleigh, N. C.
Steele, Sam	Ga. Dept. of Agriculture	Forest Park, Ga.
Stevens, Leon	Ga. Dept. of Agriculture	Blue Ridge, Ga.
Stiles, John D.	W. Va. Dept. of Agriculture	Charleston, W. Va.
Stringfield, Ray M.	La. Dept. of Agriculture and Immigration	Hammond, La.
Susott, Art	AMS, U. S. Dept. of Agriculture	Atlanta, Ga.
Syverson, Mervin	Minn. Dept. of Agriculture	St. Paul, Minn.
Talmadge, Herman E.	United States Senate	Atlanta, Ga.
Tanner, Jack	Jefferson County Truck Growers Assn.	Birmingham, Ala.
Tarleton, Curtis F.	N. C. Dept. of Agriculture	Raleigh, N. C.

Thomas, Pat	Fla. Dept. of Agriculture	Quincy, Fla.
Thomason, Don	Mo. Dept. of Agriculture	Jefferson City, Mo.
Thompson, Vinton N.	N.J. Dept. of Agriculture	Trenton, N.J.
Thomson, T. E.	Minn. Dept. of Agriculture	St. Paul, Minn.
Thrall, Charles M.	N.Y. Dept. of Agriculture and Markets	Albany, N.Y.
Thrasher, Glenn D.	National Livestock & Meat Board	Chicago, Ill.
Todd, Thomas F.	AMS, U.S. Dept. of Agriculture	Washington, D.C.
Toomey, James	AMS, U.S. Dept. of Agriculture	Washington, D.C.
Tower, Carl H.	N.C. Dept. of Agriculture	Raleigh, N.C.
Towne, Elmer E.	Vt. Dept. of Agriculture	Montpelier, Vt.
Treadway, Robert H.	ARS, U.S. Dept. of Agriculture	Philadelphia, Pa.
Tutt, J. H.	Ga. Dept. of Agriculture	Washington, Ga.
Vaughn, G. F.	Miss. Dept. of Agriculture	Jackson, Miss.
Verdoorn, C. E.	Minn. Dept. of Agriculture	St. Paul, Minn.
Vinson, Carl M.	Ga. Dept. of Agriculture	Dillard, Ga.
Wack, Frank G.	The Kroger Company	Cincinnati, Ohio
Wagner, W. A.	Ga. Dept. of Agriculture	Newborn, Ga.
Wallace, Bratton	Mo. Dept. of Agriculture	Jefferson City, Mo.
Wallenfeldt, Evert	University of Wisconsin	Madison, Wis.
Warburton, H. W.	Ga. Agricultural Extension Service	Athens, Ga.
Waters, Howard	Iowa Farm Marketing Board	Danville, Iowa
Wayne, Dewey C.	N.C. Dept. of Agriculture	Raleigh, N.C.
Welch, Felix M.	Ala. Dept. of Agriculture and Industries	Montgomery, Ala.
Werber, Eleanor	Florida Egg Commission	Tampa, Fla.
Whigham, Charlie	N.Mex. Dept. of Agriculture	University Park, N.Mex.
White, Hubert A.	Guest Speaker	Stockbridge, Ga.
Wilkinson, Donald E.	Wis. Dept. of Agriculture	Madison, Wis.
Williams, F. W.	ERS, U.S. Dept. of Agriculture	Experiment, Ga.
Williams, Willis S.	Ga. Dept. of Agriculture	Atlanta, Ga.
Wills, Walter J.	Southern Illinois University	Carbondale, Ill.
Wilson, T. E.	Ga. Dept. of Agriculture	Atlanta, Ga.
Wilson, Thomas J.	AMS, U.S. Dept. of Agriculture	Atlanta, Ga.
Winfield, John A.	N.C. Dept. of Agriculture	Raleigh, N.C.
Windisch, Wesley	Ohio Dept. of Agriculture	Columbus, Ohio
Winstead, E. E.	Ga. Dept. of Agriculture	Atlanta, Ga.
Witte, Erwyn E.	Colo. Dept. of Agriculture	Denver, Colo.
Young, D. K.	AMS, U.S. Dept. of Agriculture	Atlanta, Ga.
Youngblood, James E.	S.C. Agricultural Marketing Commission	Columbia, S.C.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1962 O - 647276

Growth Through Agricultural Progress